Ted Stevens Anchorage International Airport South Terminal Ground Transportation Lobby (GTL) Upgrades Study (56435)

Facility Condition Assessment Report



#### Prepared for:

Alaska Department of Transportation & Public Facilities

#### Prepared by:

Stantec Architecture Inc. 2515 A Street Anchorage, Alaska 99503

### Sign-off Sheet

This document entitled Ted Stevens Anchorage International Airport South Terminal Ground Transportation Lobby (GTL) Facility Condition Assessment Report was prepared by Stantec Architecture Inc. ("Stantec") for the account of Alaska Department of Transportation & Public Facilities (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

| Prepared by   | J. ( | 'edule      | 0 |  |
|---------------|------|-------------|---|--|
|               |      | (signature) |   |  |
| Jessica Ceder | berg |             |   |  |
|               |      |             |   |  |
| Reviewed by   |      |             |   |  |
|               |      | (signature) |   |  |
| Tim Mearig    |      |             |   |  |



## **Table of Contents**

| EXEC                   | UTIVE SU                             | MMARY   |                   |
|------------------------|--------------------------------------|---|-------------------|
| ABBR                   | REVIATION                            | 18  | IV                |
| 1.0                    | INTROD                               | UCTION  | 1.1               |
| <b>2.0</b> 2.1         |                                      | DMMERCIAL CURBSIDE ROOF   | 2.1               |
| 2.2                    | GTL - EA                             | AST LOBBYROOF   | 2.2               |
| 2.3<br>2.4             | GTL – W                              | VEST LOBBYOUTH TUNNEL   | 2.3               |
| <b>3.0</b> 3.1         |                                      | NICAL NARRATIVE   |                   |
| 3.2<br>3.3             |                                      | ST LOBBYOUTH TUNNEL   |                   |
| <b>4.0</b> 4.1 4.2 4.3 | GTL CC<br>GTL – E                    | CAL NARRATIVE   | 4.1<br>4.2        |
| <b>5.0</b> 5.1         |                                      | Architectural Mechanical Electrical   | 5.1<br>5.1<br>5.1 |
| 5.2                    |                                      | AST LOBBY  Architectural  Mechanical  Electrical  Architectural  Mechanical  Electrical |                   |
| 5.3                    | GTL – \$0<br>5.3.1<br>5.3.2<br>5.3.3 | OUTH TUNNEL Architectural Mechanical Electrical   | 5.4<br>5.4        |
| LIST (                 | OF APPEN                             | DICES   |                   |
| APPE                   | NDIX A                               | PHOTOGRAPHS   | A.1               |
|                        | Stante                               | ec  |                   |

| APPENDIX B | DRAWINGS | В. 1 |
|------------|----------|------|
|            |          |      |



### **Executive Summary**

The GTL Commercial Curbside at ANC's South Terminal currently serves as the taxicab and shuttle service waiting area. This building is a long, narrow steel and glass promenade with multiple doors opening onto the exterior loading and waiting curb areas. The building is divided along its length with a glazed barrel vaulted atrium space on the east and a flat-roofed volume on the west that incorporates vertical circulation elements from Level 0. A cantilevered roof canopy also runs along the east side of the atrium to provide protection for the curbside loading zone.

Cold air enters the Commercial Curbside enclosure through automatic sliding doors and then migrates down into the GTL spaces which create uncomfortable temperatures for occupants in the lobby. There are four sets of double automatic sliding doors and three sets of double manual swing doors in this facility. The double wide manual doors at the north and south ends of the glass promenade are currently blocked off with furniture.

During peak flight arrival times the Commercial Curbside, and its surrounding area, can get congested.

Recommendations for the GTL Commercial Curbside are as follows:

- Remove existing double wide doors that are currently blocked off and build new insulated walls at the north and south ends of the Commercial Curbside.
- Reconfigure the enclosure, primarily by changing the locations of the exterior doors, and compartmentalizing the stair and escalator openings by enclosing these elements and eliminating any direct access to the exterior of the building. The goal would be to transform the Commercial Curbside into an effective arctic vestibule.
- Replace all automatic sliding doors with new automatic sliding doors. Suggest replacing automatic sliding doors with Tormax heavy duty operator motors to reduce service calls and extend the life of the doors. Research current automatic door control technology to reduce "false" openings and minimize the length of time the doors are open.
- Replace all Montgomery escalators with code compliant escalators. Suggest purchasing the same escalators as the ones installed in the Parking Garage in 2013 to minimize parts and maintenance.
- Consider a new roof design to eliminate leaking at the glazed barrel vault.
- Replace the current air curtains with more effective ones that have higher discharge air velocity and integral heating coil(s).
- Review and adjust the supply air temperature reset schedule for AHU-3.
- Consider installing de-stratification fans in the high arched area.



Replace existing 27-year old incandescent and HPS luminaires with energy / maintenance
efficient fixtures, with extensions as required to adapt to proposed vestibule layout. Replace
self-luminous exit signs with green LED type on emergency power.

The GTL-East Lobby is the local traveler's first impression when arriving at the South Terminal. When transiting from the Parking Garage, passengers enter a cascading glass canopy with structural steel supports over three escalators descending to the lobby. This glass canopy has been leaking for the past 27 years. The mullions hold the water on the glazing, which eventually causes the weather stripping to leak. Maintenance is forced to use buckets with hazard signage all along this escalator promenade to catch the rainwater.

Recommendations for the GTL- East Lobby are as follows:

- Replace cascading glass roof adjacent to Parking Garage over escalators with a different roofing design and system.
- Replace the current air curtains at the garage entries with more effective ones that have higher discharge air velocity and integral heating coil(s).
- Reconfigure the garage entry vestibules to minimize the simultaneous opening of the exterior and interior doors. It may be advisable to add vestibules to the entries at levels 2 and 3.
- Convert AHU-2 to a variable air volume (VAV) system to better accommodate the
  installation of individual enclosed spaces within the GTL. Also, reduce the design heating
  supply air temperature or provide a separate means of heating. (This will largely depend
  upon how the GTL is ultimately configured.)
- Replace three obsolete Square D type NEHB power panels with new panels in room SG112A and SG156.
- Replace existing 27-year old incandescent, HPS, and T12 fluorescent luminaires with energy / maintenance efficient fixtures, subject to a renovated GTL configuration. Replace selfluminous exit signs with green LED type on emergency power.

The GTL-West Lobby is a rectangular subterranean space located directly under the four commercial vehicle lanes and the Commercial Curbside. To the west, the Lobby also includes a tunnel extension connecting to the subgrade portions of the South Terminal Arrivals Hall. In the original design, the West Lobby was configured for ground transportation entities. In 2007 the car rental agencies in the GTL were relocated to the new Rental Car Center. The West Lobby also includes the First Amendment speech area. This lobby space is now filled with flight kiosks, seating, newspaper vending machines, and Park n Pay machines.

The aesthetics of the West Lobby do not match the newly renovated finishes of the B and C concourses.

Recommendations for the GTL- West Lobby are as follows:

 Remove western edge storage rooms that are located just before entrance to the Alaska Sports Hall of Fame to increase visibility to the South Tunnel.



- Upgrade to a new floor tile pattern & color that would reinforce the direction of travel to either the South Tunnel (the Alaska Sports Hall of Fame and South Ticketing) or to the Arrivals Hall and Main Terminal. New flooring should tie into overall aesthetics of the airport.
- Upgrade perforated metal ceiling system with a new ceiling system.

The South Tunnel of the GTL adjoins the West Lobby and provides a connection to the South Baggage Claim area on the arrivals level of the terminal. It consists of a subterranean tunnel ending in a vertical circulation node that houses a stair and a set of escalators and an Elevator. The tunnel passes under the four private vehicle arrivals lanes and curb area.

The South Tunnel is used by passengers that travel frequently. The South Tunnel also houses the Alaska Sports Hall of Fame which is visually blocked.

The pattern and color of the vinyl composition floor tile in this area is worn and dated. Stress cracks have telegraphed through the tile and signs of water damage from a flooded sump pump are visible.

Recommendations for the GTL – South Tunnel are as follows:

- Upgrade floor tile to a material that would complement B and C concourse finishes.
- Repurpose planters next to escalator.
- Replace existing 25-year old T12 fluorescent luminaires with energy / maintenance fixtures, subject to a renovated GTL configuration. Replace self-luminous exit signs with green LED type on emergency power.
- For convenience receptacles in public and leased space locations, replace original wiring devices and test continuity of the conduit where used as the equipment ground conductor, or replace branch circuit wiring to include a wire-type equipment grounding conductor.
- Clean the air handlers, return/exhaust fans, and associated ductwork and diffusers.
- Refurbish air handler and fan components as necessary.
- Replace remaining pneumatic controls components with electronic DDC components.



## **Abbreviations**

ANC Ted Stevens Anchorage International Airport

DOT&PF Alaska Department of Transportation & Public Facilities

GTL Ground Transportation Lobby

Stantec Stantec Architecture Inc.

TSA Transportation Safety Administration



### 1.0 INTRODUCTION

Stantec Architecture Inc. (Stantec) was commissioned to investigate the architectural, mechanical and electrical systems in the South Terminal of the Ground Transportation Lobby (GTL) at the Ted Stevens Anchorage International Airport (ANC). The GTL is divided up into the following areas in this report: GTL Commercial Curbside, GTL – East Lobby, GTL – West Lobby and GTL – South Tunnel. The resulting Facility Condition Assessment Report will describe the existing systems and area functions and will address the maintenance, repair, and capital renewal needs for these areas. Stantec received the following as-built documents from TSAIA and used them for reference: ANC Ground Transportation Lobby Renovation, Parking Garage Escalator Replacement, Parking Garage/Terminal Expansion, Fire Alarm Systems Upgrades, and Concourse C-Phase 2 Building Completion Electrical.

A rough order of magnitude of costs is not part of this report.



#### November 2014

### 2.0 ARCHITECTURAL NARRATIVE

#### 2.1 GTL COMMERCIAL CURBSIDE

The Commercial Curbside at ANC's South Terminal currently serves as the taxicab and shuttle service waiting area. This building is a long, narrow steel and glass promenade (29ft x 138ft) with multiple doors opening onto the exterior loading and waiting curb areas. The building is divided along its length with a glazed barrel vaulted atrium space on the east and a flat-roofed volume on the west that incorporates vertical circulation elements from Level 0. A cantilevered roof canopy also runs along the east side of the atrium to provide protection for the curbside loading zone. The glass barrel vaulted roof and glass walls of the Curbside Lobby also serve as a means of bringing light down into Level 0 of the GTL. See photograph in Appendix A.

At the north and south ends of the atrium, both sets of double wide manual doors have been blocked off with seating and are locked closed in an attempt to reduce the volume of cold air entering the space. See photograph in Appendix A. However, these doors sag and create gaps for cold air to leak into the building. In winter, when the additional sets of eastern automatic doors are in the open position, cold air cascades down the adjacent stairs to the GTL. These gusts of frigid air also travel down the corridor to the C Concourse escalators.

During most portions of a typical 24-hour period, the Curbside Lobby is lightly occupied if at all. A significant portion of travelers choose to wait for their commercial transportation outside the lobby. However, during peak flight arrival times the Commercial Curbside, and its surrounding area, can get congested—particularly the sidewalk loading zone. In total, there are four sets of double automatic sliding doors and three sets of double manual swing doors in the facility. All of the Horton automatic sliding doors in this area have exceeded their commercial life and parts are difficult to acquire.

The Curbside Lobby is served by Elevator 7 at its north end and by a set of escalators (4A and 4B) at its midpoint. The Montgomery escalators were installed with the original construction in 1987 and, at 27 years of age, have exceeded their normal life-expectancy. Only light ridership has allowed them to continue functioning this long. This manufacturer is no longer in business so obtaining parts is extremely difficult. The municipality has issued citations for these escalators for a variety of non-compliance safety issues.

The steel structure and canopy at the Curbside Lobby received some cleaning and new paint this past summer under a Facilities work order and the steel now appears to be in good condition.

#### 2.1.1 ROOF

The glazed barrel vault weather stripping is cracking causing water to drip inside the lobby space. See photograph in Appendix A. The flat-roofed portion on the western side and the



#### Architectural Narrative

November 2014

cantilevered roof that runs along the eastern side were not inspected for this report but it is assumed that the 27 year old roofs are coming to the end of their life cycle.

#### 2.2 GTL - EAST LOBBY

The East Lobby of the GTL could be considered the "foyer" to the terminal for a significant portion of the traveling public—primarily local travelers. For travelers and airport workers using the Parking Garage and long-term surface lots, it is the required path of travel and offers the traveler's first impression when arriving at the South Terminal. Currently, it does not offer a very positive first impression.

The East Lobby consists of the space enclosing stairs and three sets of escalators (1A/1B, 2A/2B, 3A/3B) rising from Level 0 to the roof level of the Parking Garage. Four vestibule spaces are included, one at each level. The escalator/stair enclosure is supported on concrete beams cantilevered from the Parking Garage structure and on concrete foundations at grade. The roof assembly over the escalator and stair is a cascading glass canopy with structural steel supports. In addition to the escalator enclosure, the East Lobby also incorporates a vertical circulation element at the south end consisting of a lobby atrium and the shaft for Elevator #6 which serves all levels of the Parking Garage. This vertical element is enclosed by a three-sided glass curtain wall and by framed walls on the (east) garage side. It is roofed with a flat membrane roof. The final space in the East Lobby is a below-grade tunnel (26ft x 28ft) that passes under the embankment of the vehicle lanes above to the west.

When transiting from the Parking Garage, passengers enter either the sky-lit stair/escalator space or the stair/elevator element and descend to the below-grade, Level 0. At Level 0, the short tunnel section brings you into the West Lobby (see below).

In 2013 the Airport replaced all six of the escalators in the East Lobby as well as the ceramic tile flooring at all the landings and at the Lobby floor. The cascading glass over the escalators is currently cleaned twice a year, along with all other glass at the terminal, but the horizontal orientation of the glazing and water-trapping feature of the mullions result in an unsightly coating of dirt that accumulates between cleaning. See photograph in Appendix A.

Elevator 6 at the East Lobby is the original, hydraulic operated unit. Facilities upgraded the controls for this elevator in 2013, however, its cycle times are still extremely slow when compared to current generation elevators and energy use is almost double what could be expected from a replacement unit.

At each level of the Parking Garage (four) there is a set of double sliding automatic doors with fix glass sidelites. A coiling fire door is installed at the east end of the East Lobby tunnel along with one manual swing door for emergency egress. Two sets of automatic sliding doors, combined with an emergency egress manual swing door, are at the west boundary of the East Lobby where it meets the GTL West Lobby. The automatic sliding doors at all levels of the garage and



#### **Architectural Narrative**

November 2014

at the West Lobby interface are reported as obsolete. The manufacturer is no longer in business so obtaining parts is extremely difficult.

#### 2.2.1 **ROOF**

The cascading glass roof over the escalators has been leaking for the past 27 years—immediately following installation. The mullions hold the water on the glazing, which eventually causes the glazing seals to leak. Over the years the Airport has replaced portions of the seals on this glazing several times yet it continues to leak. Repairs have been Airport Facility's responsibility. Maintenance is forced to use buckets with hazard signage all along the route under this glazing to catch the intruding water. See photograph in Appendix A.

#### 2.3 GTL – WEST LOBBY

The West Lobby is a rectangular subterranean space (55ft x 145ft) located directly under the four commercial vehicle lanes and the Commercial Curbside. It has perimeter concrete bearing walls and a single row of interior columns spaced approximately 30ft apart. To the west, the Lobby also includes a tunnel extension (24ft x 40ft) connecting to the subgrade portions of the South Terminal Arrivals Hall. A coiling fire door and emergency egress manual swing door mark the entrance to the tunnel extension.

Whereas the East Lobby and Commercial Curbside were designed primarily as circulation elements, the West Lobby of the GTL also included space for occupancy uses. In the original design, the West Lobby was configured for up to 11 counters for ground transportation entities such as rental cars agencies and commercial shuttles. Other functions in the West Lobby included storage, mechanical and electrical equipment rooms, public pay phones and expansion space for future vendors. In 2007 the car rental agencies in the GTL were relocated to the new Rental Car Center. Since that time West Lobby storage space was converted for temporary offices, training, and break room use by the Transportation Safety Administration (TSA). These converted spaces were not well zoned for heat or ventilation. Rental car counters were removed partial-height walls installed to enclose space for a variety of storage uses. Currently, there is no occupancy in the West Lobby spaces.

One other function in the West Lobby includes space designated as ANC's First Amendment speech area. An alcove of about 18ft x 24ft on the north end of the Lobby is available for entities who wish to speak to some cause or have a message for the general public. This space is also used as a voting "precinct" during local, state and national elections.

Generally, the West Lobby space is dated, bleak, and abandoned. The partially enclosed storage rooms along the east wall of the Lobby create a minor bottle neck to the South Tunnel which houses the Alaska Sports Hall of Fame. Currently, flight kiosks, seating, newspaper vending machines, Park n Pay machines fill this awkward space. The ceiling system in the West Lobby is perforated metal panels. These perforated metal panels in some areas appear to be damaged. Consideration should be given to replace this entire ceiling system to a similar aesthetic that is



#### **Architectural Narrative**

November 2014

used in B or C concourses. New lighting in this area would lighten up the heavy feeling of the ceiling and unify the GTL with B and C concourses.

The pattern and color of the existing vinyl composition floor tile in this area is worn and dated. See photograph in Appendix A. Many stress cracks have telegraphed thru the tile.

#### 2.4 GTL – SOUTH TUNNEL

The South Tunnel of GTL adjoins the West Lobby and provides a connection to the South Baggage Claim area (Bag Claims #4 and #5) on the arrivals level of the terminal. It consists of a subterranean tunnel (16ft x 110ft) with a 90° bend ending in a vertical circulation node (42ft x 42ft) that houses a stair and set of escalators (#9 and #10) and Elevator 3. The node also includes an elevator equipment room and an elevator lobby. The tunnel passes under the four private vehicle arrivals lanes and curb area. It has perimeter concrete bearing walls and a spread footing foundation.

The South Tunnel is used by passengers that travel frequently and know that it is a short cut between the Parking Garage and commuter airline gates operating out of the A-concourse. The South Tunnel also houses the Alaska Sports Hall of Fame as a temporary favor to that fledgling organization. The framed photographs that line this hall are a nice Alaskan touch. The ceilings in this tunnel consist of equal sections of perforated metal panels and gypsum wall board. A more updated appearance than the ceiling in west GTL lobby. The interior finishes on the ceiling and walls appear to be in good shape and blend with the rest of the Airport. The signage to the Alaska Sports Hall of Fame and to portions of the airport accessible via the South Tunnel is minimal and the visual clues are bottle necked by the infill of storage rooms that now line the entrance to this area of the GTL. See photograph in Appendix A.

The pattern and color of vinyl composition floor tile in this area is worn and dated. See photograph in Appendix A. Many stress cracks have telegraphed through the tile and signs of water damage from a flooded sump pump are visible. Other fire safety elements in the South Tunnel include three coiling fire doors surrounding the escalators and two emergency egress manual swinging doors.

One final, unique feature of the South Tunnel are the planters that cascade from Level 1 down the south side of the escalators (over the elevator equipment room) and into the elevator lobby below. These planters, which may have been a water feature at some time, are currently empty. See photograph in Appendix A. Perhaps this area could be an Alaskan animal display that would match a similar feature at the base of the escalators leading to the terminal's Arrivals Hall.



### 3.0 MECHANICAL NARRATIVE

#### 3.1 GTL COMMERCIAL CURBSIDE

Heating and ventilation air for the Commercial Curbside enclosure is provided by air handling unit, AHU-3, located in Mechanical Room M15 at the north end of the GTL West Lobby. Supply air ductwork is routed above the West Lobby ceiling and blows into a plenum under the Commercial Curbside floor in two places—one at each end. The supply air then flows from the underfloor plenum up through holes in the floor located under sheet metal supply air plenums located along the perimeter of the enclosure. These air plenums resemble baseboard enclosures, and have slot-type discharge openings along the top. This air handling unit also supplies air to the upper portion of the Commercial Curbside stair and escalators enclosure in a similar fashion. It appears that return air for this system flows down the open stairwells and escalator enclosure, and is drawn into the West Lobby ceiling space (near the northeast corner) by R/EF-2 located in Mechanical Room M-15. The supply air handling unit for this area, AHU-3, (as well as AHU-1 and AHU-2 described below), are modular air handling units that have a mixing box section, an air blender section, a filter section, a hydronic heating coil, a chilled water cooling coil, and a centrifugal, draw-through, plenum-type fan section. R/EF-2 is a propeller-type fan with an inlet silencer.

This system is a constant volume, variable temperature system, and is configured as a single zone type system. This means that it is controlled by a single thermostat, and all spaces that it serves are fed the temperature of air that the space where the thermostat is located is calling for. This heating/ventilation strategy seems appropriate for the configuration and use of the Commercial Curbside enclosure.

It has been reported that cold air entering the Commercial Curbside enclosure through opening and closing automatic doors migrates down into the GTL West Lobby which created comfort temperature issues for occupants of the previously open rental car booths that lined the West Lobby in the past. There are five sets of exterior double-wide doors located around the perimeter of the Commercial Curbside enclosure, three sets of which are automatic sliding doors. All sets of doors have a no-heat type air curtain unit mounted overhead just inside the door openings.

The air handling unit (AHU-3), the return/exhaust fan (R/EF-2), associated ductwork and heating and cooling piping, and control system appear to be original to the 1987 construction. The nearly 30-year age of the air handling unit and return/exhaust fan would suggest that they will soon need either replacement or complete refurbishment. It isn't known what, if any, refurbishment these pieces of equipment have undergone since their original installation. Damper and valve actuators are believed to be original pneumatic type devices. However, they are controlled by an early DDC system.



November 2014

There are no restroom or other plumbing facilities in this area. There are roof drainage systems for the flat roof areas.

The facility's wet-pipe automatic fire suppression system serves this area.

#### 3.2 GTL- EAST LOBBY

The East Lobby is a multi-level structure which provides vertical circulation for the Parking Garage and connects into the GTL West Lobby by a tunnel. This space is served by heating and ventilation air handling unit, AHU-1, also located in Mechanical Room M15 at the north end of the GTL West Lobby. Return/exhaust air is accomplished by R/EF-1 located in the same mechanical room. R/EF-1 is a vertically-mounted, vane-axial, in-line fan. Both the supply and the return air ducts for this system are routed underground from the mechanical room to two locations—one under the escalators and the other up into a chase adjacent to the garage elevator hoistway. Most of the supply air is discharged into a plenum on the exterior side of the escalator enclosure and directed upward through baseboard-like enclosures similar to those described for the Commercial Curbside. Some supply air is introduced into the small Elevator 6's atrium at each of the four levels from the chase on the west side of the elevator hoistway. About half of the total return air enters an under-escalator plenum through wall grilles mounted low at the upper end of the escalator enclosure (4th level). The other half is drawn into the chase adjacent to the Elevator 6 hoistway at levels one and four.

The tunnel connecting the East Lobby and the West Lobby is served by AHU-2, which is the main heating and ventilation unit for the West Lobby. A separate branch duct with its own zone heating coil discharges air into this space by means of ceiling-mounted slot-type diffusers. Heating of this space would be better accomplished if the supply was discharged through wall diffusers mounted low in the wall instead of through the existing ceiling diffusers.

Like the Commercial Curbside, this system is a constant volume, variable temperature system and is configured as a single zone type system. This seems appropriate for the single space nature of the East Lobby. The connection between the East Lobby and the first level of the Parking Garage includes an arctic vestibule, though its effectiveness as such is often reduced due to the proximity of the exterior and interior sets of doors—too often, both sets of doors are open allowing cold air infiltration. The vestibule doors are the automatic sliding type similar to the ones in the Commercial Curbside but at this location they have air curtains above the exterior doors that have integral electric heating coils. However, the same comments apply to these automatic doors and the associated air curtains that were outline for the Commercial Curbside above. One difference between the East Lobby and the Commercial Curbside is that the East Lobby extends up four levels. Due to the limited scope of this assessment and the current weather conditions, it's not known how much, if any, cold air infiltration occurs at the various levels. The mid-levels (2 and 3) don't have arctic vestibules (i.e., they don't have interior doors). They do have heating-type air curtains, though. It's possible that these levels experience warm air exfiltration due to stack effect. Of course, windy conditions from the right direction could easily overcome any stack effect.



November 2014

There are no restroom or other plumbing facilities in this area. There is a roof drainage system for the flat roof area above the elevator atrium. There is also an elevator sump drain line installed under the floor slab that ties into an underfloor waste line in the West Lobby.

The facility's wet-pipe automatic fire suppression system serves this area.

#### 3.3 GTL – WEST LOBBY

The GTL West Lobby is heated and ventilated by air handling unit, AHU-2, located in Mechanical Room M15 at the north end of the space. Supply air ductwork is routed above the ceiling and branch ducts connect to individual ceiling-mounted slot-type diffusers located at regular intervals around the entire perimeter of the Lobby area, with the exception of the opening to the East Lobby tunnel. After 2007, a pair of enclosed offices were constructed along the west side of the Lobby and several semi-enclosed spaces were constructed on the east side of the Lobby. The existing supply air diffusers were simply adjusted for different air flows. Our understanding is that these spaces have ceased to serve as occupied space. It appears that return air for this system is handled by the same return/exhaust fan that serves AHU-3, with return air passing through the slat-type ceiling and flowing toward R/EF-2 in the northeast corner.

This system is also a constant volume, variable temperature system, and is configured as single zone. This would be appropriate for the West Lobby system if the entire Lobby were one big space with no individual room(s) temperature control needed. Conversely, the offices that were added to the West Lobby couldn't be provided with individual temperature control. The other drawback to the existing system is that the ceiling-mounted slot diffusers are generally effective at delivering cooling temperature air by discharging horizontally across the ceiling, mixing with the warmer air before dropping into the occupied zone. However, these same diffusers are not very effective at delivering warm air to the occupied zone. Overhead heating air systems should discharge vertically. The alternatives are to discharge the heated air down low in the space instead of at the ceiling elevation and/or provide a separate heating system.

Given the issues described above, it's understandable why there were comfort temperature complaints from the occupants of the open rental car booths even if there wasn't a significant amount of cold air infiltrating through the various exterior doors. There will likely be different recommendations for how to configure the existing and/or additional mechanical systems for this area depending upon what the final use and configuration of the space winds up being.

The same life expectancy and corrective action comments that were described for the Commercial Curbside air system also apply to the GTL West and East Lobby air systems.

There are no restroom or other plumbing facilities in this area other than a mop sink in the janitor's room, adjacent to the Mechanical Room, in the northeast corner of the West Lobby. The room under the stair in the southwest corner of the West Lobby contains a water service assembly having a 6" water service that feeds a 4" fire sprinkler main, a 3" non-potable water supply to the garage, and a 34" cold water supply to the janitor's closet. This under-stair room



#### Mechanical Narrative

November 2014

also contains a lift pump station recessed in the floor that reportedly is a part of the stormwater (roof drainage?) system. There's an elevator sump drain line under the floor slab. A 4" underfloor sewer/waste line runs the length of the West Lobby in the north-south direction, just west of the interior columns line. There are roof drainage systems for the flat roof areas.

The facility's wet-pipe automatic fire suppression system serves this area.

#### 3.3 GTL – SOUTH TUNNEL

The South Tunnel of the GTL has ceiling-mounted supply air diffusers located along the west side. It appears, from the as-built drawings provided, that these diffusers are connected to the AHU-2 system that serves the GTL West Lobby. If the use of this space remains similar to its current use, the existing system seems appropriate. However, this may be impacted if the use of the GTL West Lobby changes.

There are no restroom or other plumbing facilities in this area.

The facility's wet-pipe automatic fire suppression system serves this area.



### 4.0 ELECTRICAL NARRATIVE

#### 4.1 GTL COMMERCIAL CURBSIDE

Electric service #4 is supplied at 480Y/277V with 1200A capacity to supply all the spaces within the GTL, elevators 5 - 7, four escalators (1A/1B, 2A/2B, 3A/3B in GTL East; 4A/4B in GTL West), the Parking Garage, surface parking lots (west, north, and south lots on panels 40NHA, 40NHB, 41NHB) and the Parking Control Building. The original 1987 sub-station was demolished and new equipment was installed in 2000 in an outdoor enclosure identified as Substation #4 on the north end of the Commercial Curbside. Service #4 equipment consists of an oil-filled 750kVA padmount transformer, and a 1200A 5-section switchboard (MDP-4H) that includes ground fault protection, main bus power-monitoring, space heaters, two automatic transfer switch (ATS) sections and a distribution section that supply normal, emergency, and standby power to the distribution panels in the West Lobby electrical room (SG112A) below. The service switchboard is a 14 year old installation and is estimated to have a 30 to 35-year remaining life. Current code would require the personnel door into the electrical room to be equipped for panic hardware egress where it is within 25 feet of the 1200A equipment working space. A 12-month demand history data log was requested from the Department for MDP-4H, and is (will be) included in the appendix.

All lighting fixtures in the Commercial Curbside appear to be original installation from 1987. In the Curbside's atrium and vertical circulation space, lighting consists of incandescent can-lights. The canopy cover on the east side is provided with recessed HPS luminaires. In the volume on the west that incorporates vertical circulation elements from Level 0, lighting consists of wall-bracket and recess ceiling-mounted 70W HPS fixtures, with recessed 200W incandescent fixtures at the ceiling for emergency lighting. The bracket fixtures produce overlit hot spots below the fixtures, and the orange HPS lighting at the ceiling create a visual discontinuity at the West Lobby's interior lighting, but lighting levels appear to be adequate. Lighting is switched by BAS control in the West Lobby electrical room SG112A.

Some luminaires are now circuited to emergency power based on review of as-built panel schedules, however, a power interruption would result in an outage of the HPS lighting for several minutes until the lamps could cool down and restrike. Exit signs are obsolete self-luminous type, expended beyond their rated life. All luminaires are considered to be at the end of their useful life, with inadequate egress signage and exterior landing emergency illumination (IBC 1011.4, 1006.3), and replacement with energy efficient, low maintenance fixtures is recommended.

Fire alarm coverage is provided only in the west side atrium of the curbside enclosure, that consists of notification devices, manual stations, and smoke detection at the elevator #7 upper level landing. Duct smoke detection in the discharge air is provided with automatic shutdown of the air handler (AHU-3) that supplies the commercial curbside enclosure. Fire alarm is controlled



#### **Electrical Narrative**

November 2014

by the local networked panel in the GTL West Lobby, with conditions and recommendations described under that section .

#### 4.2 GTL – EAST LOBBY

Power for HVAC, lighting, conveyance equipment, and convenience receptacles is supplied from normal and emergency panels located either in the West Lobby electrical room SG112A or in electrical room SG128 below the escalators 1A/1B. Three subpanels (fed from SG112A in the West Lobby) are located in Level 0 space of the East Lobby (level 1 of the Parking Garage) in electrical room SG128 below escalators 1A/1B. These panels are Square D panels installed in 1987, in good condition with space for circuit additions, and mainly serve the Parking Garage but include some power and lighting circuits feeding the East Lobby. The two 480/277V lighting panels 40NHB and 40EHA are also obsolete Square D type NEHB, and should be scheduled for replacement.

Lighting in the GTL East Lobby and cascade escalators consists of linear T12 fluorescent, recessed overhead and cove-mounted indirect fixtures with neon backlit signs at parking garage landings, and recessed louvered fixtures in the suspended ceiling at level 0, with recessed compact fluorescent downlights at elevator #8 landings. Lighting is switched by BAS control in the West Lobby electrical room SG112A. Emergency lighting is provided by designated luminaires on emergency power circuits; exit signs are obsolete self-luminous type, expended beyond their rated life. The 27 year old fixtures are near the end of their service life, and replacement with higher efficacy, low maintenance luminaires is recommended.

Fire alarm coverage consists of notification devices, manual stations, and smoke detection at the elevator landings, machine room, and top of shaft (per record drawings). Smoke detection is also provided to activate the self-closing fire doors in the tunnel between the East and West Lobbies. Valves and flow-switches associated with sprinklers in the GTL are located and supervised by the fire alarm system outside of the GTL. Duct smoke detection in the discharge air is provided with automatic shutdown of the air handler (AHU-1) that supplies this space. Fire alarm is controlled by the local networked panel in the GTL West Lobby, with conditions and recommendations described under that section .

Other special systems with terminal devices in the East Lobby include public address speakers, a security intercom station, public assistance telephone, and security video cameras, all or most of which route through the West Lobby telecom room SG121, and with head-end control equipment located outside of the GTL area.

#### 4.3 GTL – SOUTH TUNNEL

Power for HVAC, lighting, conveyance equipment, and convenience receptacles in the West Lobby is supplied from normal and emergency panels located in the West Lobby electrical room SG112A. The three main distribution panels and four subpanels for normal power, emergency power, and standby power located in electrical room SG112A are the original Square D panels



#### **Electrical Narrative**

November 2014

installed in 1987. One discrepancy noted in the record panel schedules for MDP-4H and 40EDP-HA is the 250A rating of the panel 40EDP-HA feeder breaker at MDP-4H, which should be 150A. The panels are generally in good condition, with some bus space remaining for circuit additions, and replacement parts available from the manufacturer, with the following exceptions:

- 480/277V standby power distribution panel 40SDP-HA has no remaining bus space for additional circuits.
- 480/277V normal power lighting panel 40NHA is an obsolete Square D type NEHB, for which
  replacement breakers and parts are not readily available. This panel should be considered
  at end of life and scheduled for replacement.

Lighting fixtures in the West Lobby appear to be original installation from 1987, with the exception of some upgrades and additions to individual rooms and leased spaces. Lighting in the West GTL and adjoining rooms is generally linear T12 fluorescent, cove-mounted indirect and recessed/louvered in ceiling. Exceptions include T8 fixtures installed within the last 10 years for lease space rooms, telecom room SG121, and storage room SG148. All lighting in the West Lobby public areas appears to be contactor-switched by BAS control in the GTL electrical room SG112A. Emergency lighting is provided by designated normal luminaires on emergency power circuits. Exit signs are obsolete self-luminous type, expended beyond their rated life. All original (T12, HPS, and incandescent) luminaires are considered to be at the end of their useful life, with inadequate egress signage illumination (IBC 1011.4), and replacement with higher efficacy, low maintenance luminaires is recommended.

Fire alarm coverage in the West Lobby consists of manual stations, smoke detectors in the public corridors, smoke detection at elevator #7 landings and machine room per code, and additional smoke detectors for supplementary protection in other storage/ equipment rooms. Duct smoke detection in the discharge air is provided with automatic shutdown of the air handler (AHU-2) that supplies this space. Smoke detection is also provided to activate the self-closing fire doors in the west tunnel to the Main Terminal. Valves and flow-switches associated with sprinklers in the GTL are located and supervised by the fire alarm system outside of the GTL.

The fire alarm system that covers all GTL spaces is a networked Siemens Apogee life safety system, with a satellite control panel and booster panel located in the West Lobby electrical room SG112A. Detection devices are analog/addressable with self-testing/calibration intelligence. The audible/visual notification devices are connected for audio voice evacuation, and appear to comply with current code. The estimated age of the system is about 15 years, and reported to be in good condition with regular (weekly) testing and replacement of faulty devices, and no recorded deficiencies. The expected remaining service life is at least 10 years based on the manufacturer's system support with no published obsolescence of the control equipment.

Other special systems with terminal devices in the West Lobby include public address speakers, security video cameras, card access control (telecom room), park & pay kiosk, and a flight information display system (FIDS) video screen array, all or most of which route through the West



#### **Electrical Narrative**

November 2014

Lobby telecom room SG121, and with head-end control equipment located outside of the GTL area. Telecom room SG121 was installed in 2005 (estimated date) during the C-Concourse upgrade, and is equipped with rack-mount switching and cross-connect facilities for future GTL tenant access to telecom services.

#### 4.4 GTL – SOUTH TUNNEL

The South Tunnel (level 0) extends from the West Lobby to the three fire door set that interfaces to the Main Terminal escalators 9 & 10 landing area (level 0), which connects to Level 1 of the South Terminal at bag claims 4 and 5. Power for HVAC in the South Tunnel is supplied from panel 40SDP-HA in the West Lobby electrical room SG112A for the main air handler (AHU-2), except for power to a small transfer fan at the west end of the tunnel is powered from the main terminal (panel XC3). Power for convenience receptacles in the south tunnel originates from panel XC3 in the main terminal, based on the 1990 record drawings.

Lighting in the South Tunnel consists of indirect neon lighting above the ceiling panels, covemounted T12 linear fluorescent, and recessed compact fluorescent down lights. Lighting is estimated to be approximately a 25 year old installation. Based on 1990 record drawings, all tunnel lighting is circuited to emergency power from the main terminal (panel XC3), except the neon lighting is circuited to main terminal normal power (panel CC3). The self-luminous exit signs at the terminal end of the tunnel are obsolete and expended beyond their rated life. The space is well illuminated, however the fixtures, due to age, are considered to be near the end of their useful service life, and should be scheduled for replacement with more energy efficient, low maintenance luminaires. Control of the tunnel lighting is assumed to be via BAS controlled contactor in the main terminal electrical room, but this has not been confirmed.

Fire alarm coverage in the South Tunnel is provided from the control panel in the GTL West Lobby, and includes audible/visual notification devices, and smoke detection to activate the three fire door set at the Main Terminal escalator landing area. Valves and flow-switches associated with sprinklers in this space are located and supervised by the fire alarm system outside of the GTL.



# 5.0 REPAIR/CAPITAL RENEWAL CONSIDERATIONS

#### 5.1 GTL COMMERCIAL CURBSIDE

#### 5.1.1 Architectural

- Remove existing double doors and build new insulated walls at the north and south ends of the Commercial Curbside atrium this would also allow for an area of seating for the public out of the circulation path.
- Replace all automatic sliding doors in the Commercial Curbside with new automatic sliding doors. Suggest replacing automatic sliding doors with Tormax heavy duty operator motors to reduce service calls and extend the life of the doors.
- Replace all Montgomery escalators in the Commercial Curbside with code compliant escalators. Suggest purchasing the same escalators as the ones installed in the parking garage in 2013 to minimize parts and maintenance.
- Consider a new roof design to eliminate leaking glazed barrel vault roof.
- Consideration should be given to infilling the space above the stairwell and providing a small
  coffee cart that could offer refreshments to the public and cab drivers. Enclosing the
  stairwell would also reduce the amount of air traveling down into the lobby. See photograph
  in Appendix A for current stairwell.

#### 5.1.2 Mechanical

- Due to the age of the existing mechanical equipment, and depending upon maintenance and refurbishment efforts undertaken since the original construction, the AHUs and R/EFs and their associated ductwork (including air plenums) should be cleaned. Additionally, equipment refurbishment should/could include repairing, adjusting, and/or replacing control dampers and control valves, cleaning and combing coils, replacing unit gasketing (access doors, etc.), and replacing fan shafts and/or bearings.
- Replacement of any existing pneumatic controls with electric/electronic DDC controls should also be considered.
- To help reduce the cold air infiltration effect, the existing air curtains could be replaced with more effective ones that have higher discharge air velocity and integral heating coil(s). Perhaps a more aggressive supply air temperature reset schedule for AHU-3 could be programmed in the DDC system, as well. However, it's probable that mechanical solutions would only be partially effective at reducing the problem. Instead, or in addition, consideration should be given to reconfiguring the Commercial Curbside enclosure itself, primarily by changing the locations of the exterior doors (or eliminating some of them) and compartmentalizing the stair and escalator openings; i.e., enclosing these elements and eliminating any direct access from them to the exterior of the building. The goal would be to transform the Commercial Curbside enclosure into an effective arctic vestibule.
  Furthermore, if automatic doors are essential to the facility operation, they should be a type



that uses manual activation (similar to ADA automatic door operators) instead of proximity sensors, as well as a control strategy that minimizes how long the door stays open. Ceiling fans located up in the arched roof area of the Commercial Curbside's atrium might help to prevent stratification of warm air from the AHU-3 system, which essentially discharges vertically upward.

- Replace the current air curtains with more effective ones that have higher discharge air velocity and integral heating coil(s).
- Review and adjust the supply air temperature reset schedule for AHU-3.
- Consider installing de-stratification fans in the high arched area of the Curbside.

#### 5.1.3 Electrical

Replace existing 27-year old incandescent and HPS luminaires with energy / maintenance
efficient fixtures, with extensions as required to adapt to proposed vestibule layout. Replace
self-luminous exit signs with green LED type on emergency power.

#### 5.2 GTL – EAST LOBBY

#### 5.2.1 Architectural

- Replace cascading glass roof adjacent to Parking Garage over escalators with a different roofing design and system.
- The automatic sliding doors at all levels of the garage and at the West Lobby interface are reported as obsolete. It is recommended these automatic doors be replaced.

#### 5.2.2 Mechanical

- Clean the air handler, return/exhaust fan, and associated ductwork and diffusers.
- Refurbish air handler and fan components as necessary.
- Replace remaining pneumatic controls components with electronic DDC components.
- Replace the current air curtains at the East Lobby garage vestibules with more effective ones that have higher discharge air velocity and integral heating coil(s).
- Reconfigure the garage entry vestibules to minimize the simultaneous opening of the exterior and interior doors. It may be advisable to add vestibules to the entries at levels 2 and 3.
- Reconfigure the supply air feeding the existing ceiling-type diffusers in the tunnel connecting the East Lobby to the West Lobby to discharge low through the wall below where the exiting ceiling diffusers are located.

#### 5.2.3 Electrical

Replace existing 27-year old incandescent, HPS, and T12 fluorescent luminaires with energy /
maintenance efficient fixtures, subject to a renovated GTL configuration. Replace selfluminous exit signs with green LED type on emergency power.



#### 5.3 GTL – WEST LOBBY

#### 5.2.4 Architectural

- Upgrade to a new floor tile pattern & color that would reinforce the direction of travel to either the South Tunnel (the Alaska Sports Hall of Fame and South Ticketing) or to the Arrivals Hall and Main Terminal. New flooring should tie into overall aesthetics of the airport.
- Upgrade perforated metal ceiling system with a new ceiling system.
- Remove western edge storage rooms that are located just before entrance to the Alaskan Sports Hall of Fame to increase visibility of the South Tunnel.

#### 5.2.5 Mechanical

- Clean the air handler, return/exhaust fan, and associated ductwork and diffusers.
- Refurbish air handler and fan components as necessary.
- Replace remaining pneumatic controls components with electronic DDC components.
- It would be possible, through the DDC control system, to add thermostats in each space and either prioritize which thermostat has control or average the various thermostats to generate an averaged control signal. However, that strategy typically doesn't satisfy the desire for differing spaces to have their own temperature control. A better strategy is to provide a variable volume, constant temperature air system to allow individual zones/spaces to truly have their own temperature control. Generally, this type of system also uses considerably less energy by having the air handler provide only the amount of air that each of the zoned spaces is calling for—ramping the fan, and its power consumption up or down accordingly. The air system serving the West Lobby could be converted to this type of system by adding VAV boxes for each desired zone and adding a variable frequency drive (VFD) to the fan. This latter conversion would also require replacement of the existing fan motor with a premium efficiency motor suitable for use with a VFD. Also, reduce the design heating supply air temperature or provide a separate means of heating.

#### 5.2.6 Electrical

- Replace three obsolete Square D type NEHB power panels with new panels in room SG112A and SG156.
- Replace existing 27-year old incandescent, HPS, and T12 fluorescent luminaires with energy / maintenance efficient fixtures, subject to a renovated GTL configuration. Replace selfluminous exit signs with green LED type on emergency power.



#### November 2014

#### 5.3 GTL – SOUTH TUNNEL

#### 5.3.1 Architectural

- Upgrade to a new floor tile pattern & color that would reinforce the direction of travel to the Alaska Sports Hall of Fame and would unify with the overall aesthetics of the airport.
- Repurpose planters next to escalator.

#### 5.3.2 Mechanical

- Clean the associated ductwork and diffusers.
- Replace remaining pneumatic controls components with electronic DDC components.

#### 5.3.3 Electrical

- Replace existing 27-year old T12 fluorescent luminaires with energy / maintenance fixtures, subject to a renovated GTL configuration. Replace self-luminous exit signs with green LED type on emergency power.
- For convenience receptacles in public and leased space locations, replace original wiring devices and test continuity of the conduit where used as the equipment ground conductor, or replace branch circuit wiring to include a wire-type equipment grounding conductor.



# Appendix A PHOTOGRAPHS



Photo 1: Interior View of GTL Commercial Curbside

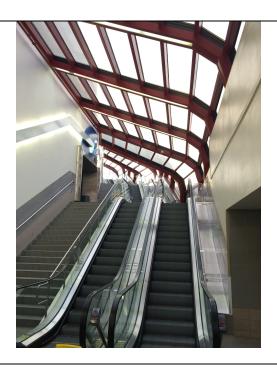


Photo 2: Skylights over GTL – East Lobby



Photo 3: Doors blocked off with seating at GTL Commercial Curbside



Photo 4: Floor pattern in GTL – West Lobby



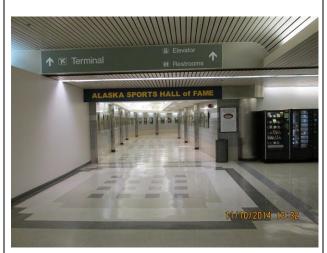




Photo 5: GTL – South Tunnel, Alaska Sports Hall of Fame (entrance)

Photo 6: Planters & escalators at GTL – South Tunnel





Photo 7: Montgomery escalators in GTL Commercial Curbside

Photo 8: Exterior canopy of GTL Commercial Curbside





Photo 9: Stairs up to GTL Commercial Curbside

Photo 10: Stairs up to GTL Commercial Curbside





Photo 11: GTL – South Tunnel, Alaska Sports Hall of Fame (inside tunnel)

Photo 12: Exterior view of GTL Commercial Curbside

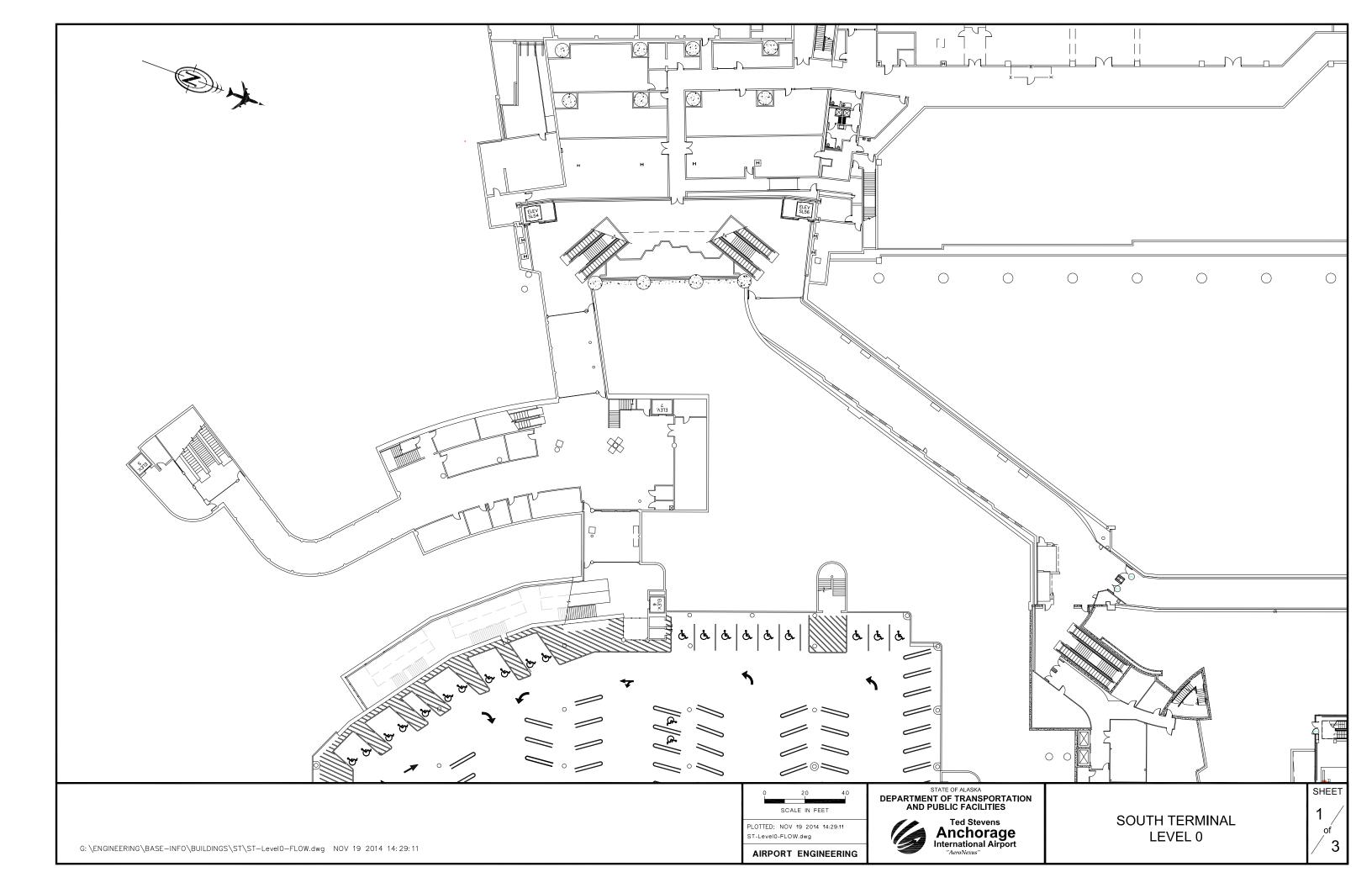


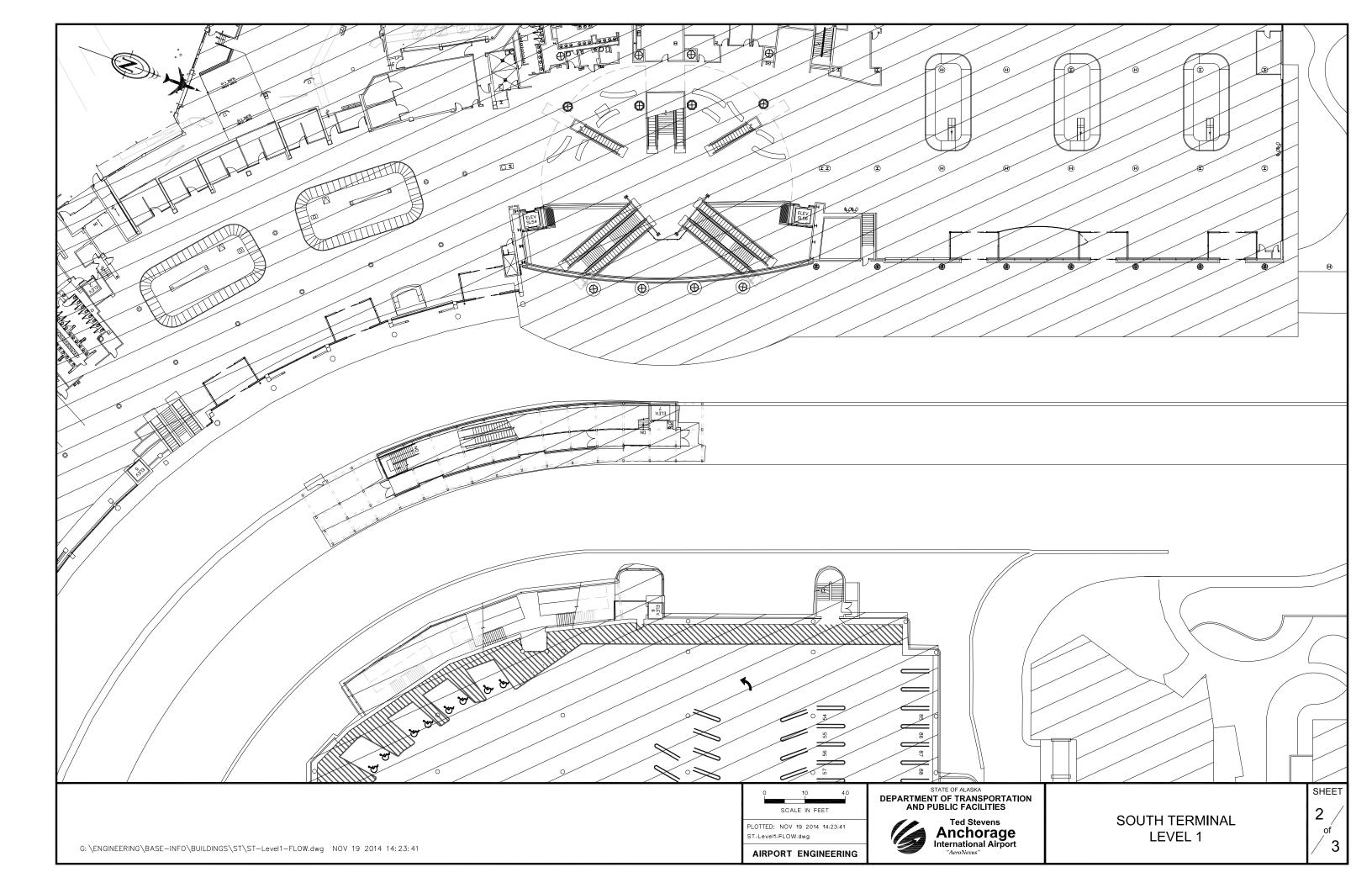
#### Appendix B DRAWINGS

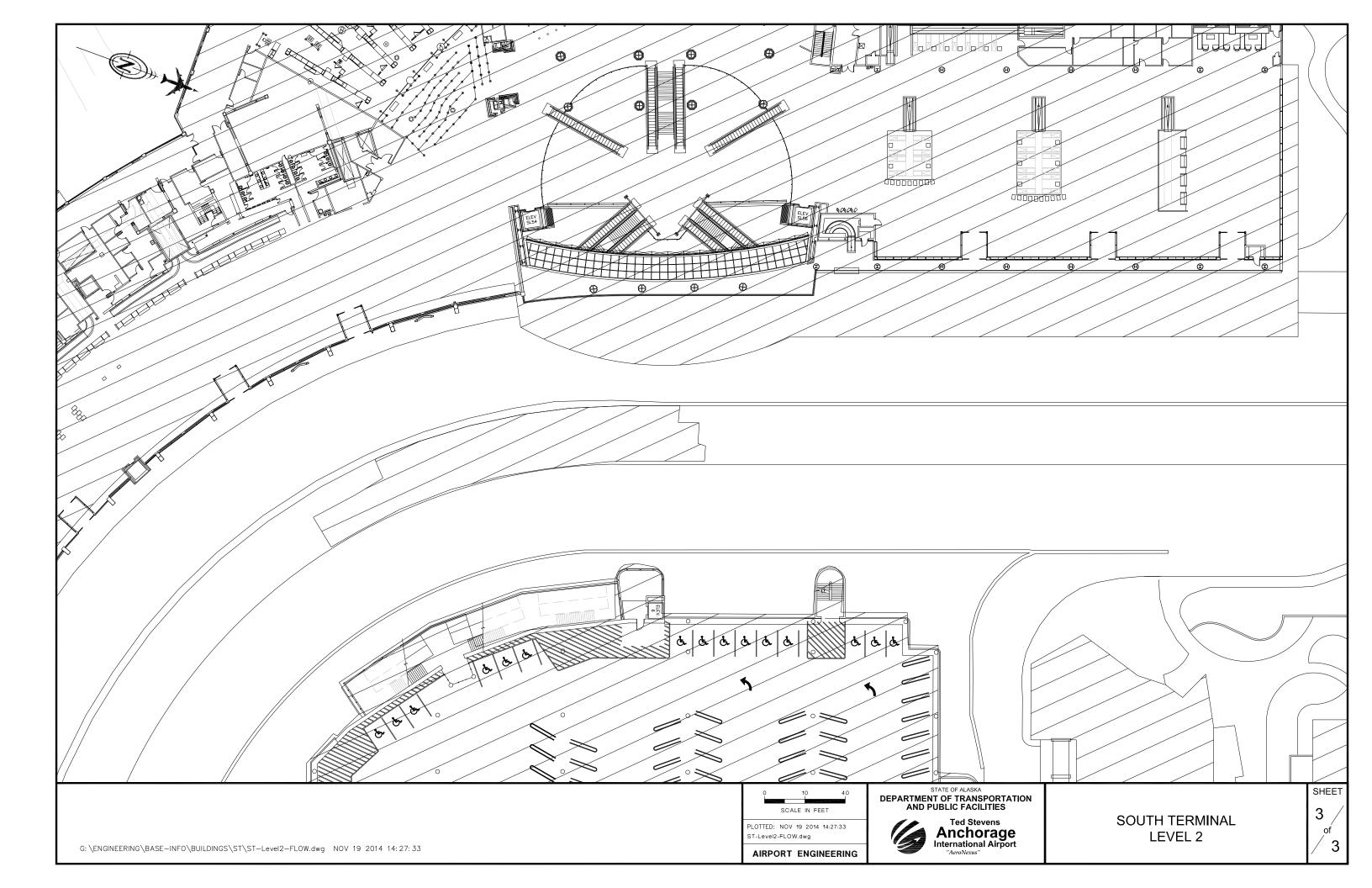
November 2014

# Appendix B DRAWINGS









ANC-JOCC GROUND TRANSPORTATION LOBBY RENOVATION SOUTH TERMINAL TED STEVENS ANCHORAGE INTERNATIONAL AIRPORT

# **GENERAL CONTRACTOR** DENALI GENERAL CONTRACTORS, INC

P.O. BOX 111490 ANCHORAGE, ALASKA 99501 (907) 561-1840 CONTACTS: GEOFF VICKERS

# PROJECT DESCRIPTION:

THIS PROJECT INVOLVES IMPROVEMENTS TO THE EXISTING GROUND TRANSPORTATION LOBBY AT THE SOUTH TERMINAL. WORK INCLUDES REMOVAL OF THE EXISTING RENTAL CAR COUNTERS AND CONSTRUCTION OF NEW OFFICE AND STORAGE SPACES WITH ASSOCIATED MECHANICAL AND ELECTRICAL MODIFICATIONS. THERE IS NO CHANGE IN USE OR OCCUPANCY AND NO CHANGES TO THE STRUCTURE OR FIRE RATINGS OR ASSEMBLIES. THE EXISTING BUILDING IS FULLY SPRINKLERED AND THE NEW WORK WILL INCLUDE MODIFICATION OF THE SPRINKLER AND FIRE ALARM SYSTEM AS REQUIRED TO ACCOMMODATE THE IMPROVEMENTS.

# LEGAL DESCRIPTION:

ANCHORAGE INTERNATIONAL AIRPORT PARCEL 01040154

# PROJECT NOTES:

1. ALL WORK SHALL CONFORM TO THE CURRENT EDITIONS OF THE INTERNATIONAL BUILDING CODE (IBC) AS ADOPTED BY THE MUNICIPALITY OF ANCHORAGE, AND THE TED STEVENS ANCHORAGE INTERNATIONAL AIRPORT DRAFT TERMINAL CONSTRUCTION STANDARDS.

- 2. THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AT THE SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. DISCREPANCIES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE IMMEDIATELY.
- 3. THESE DOCUMENTS INDICATE DESIRED CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL PERMITS AND REGULATOR'S APPROVALS AND TO PROVIDE ALL ENGINEERING, MATERIALS AND LABOR NECESSARY TO ACHIEVE THE DESIRED FULLY FUNCTIONAL FINAL CONDITIONS INDICATED OR IMPLIED IN THESE DOCUMENTS.
- 4. THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN A SET OF PROJECT RECORD DOCUMENTS THAT RECORD ALL CHANGES TO THE WORK AND ACTUAL AS-BUILT CONDITIONS. INFORMATION SHALL BE RECORDED CONCURRENT WITH THE PROGRESS OF CONSTRUCTION AND ENTRIES SHALL BE COMPLETE AND ACCURATE ENABLING FUTURE REFERENCE BY THE OWNER.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE SITE IN A CLEAN, SAFE, AND SECURE MANNER. THE FACILITY WILL CONTINUE NORMAL OPERATIONS THROUGHOUT THE COURSE OF CONSTRUCTION. THE CONTRACTOR SHALL NOT INTERRUPT OR INTERFERE WITH ANY OF THE SERVICES OF THE FACILITY WITHOUT THE EXPRESS PERMISSION OF THE OWNER'S REPRESENTATIVE. SUCH INTERRUPTIONS SHALL BE AS BRIEF AS POSSIBLE AND ONLY OCCUR AT THOSE TIMES PERMITTED BY THE OWNER'S REPRESENTATIVE.

# **ARCHITECT** BARNES ARCHITECTURE INC.

218 E. 4TH AVE. ANCHORAGE, ALASKA 99501 (907) 276-5161 CONTACTS: JEFF BARNES, FLEMMING PETERSEN

MECHANICAL & ELECTRICAL ENGINEERING RSA ENGINEERING, INC.

2522 ARCTIC BLVD., SUITE 200 ANCHORAGE, ALASKA 99503-2516 (907) 276-0521 CONTACT: ROGER FULL, MONICA DALE

# **CODE REVIEW:**

REVIEW HAS BEEN BASED ON THE CODE ANALYSIS CONTAINED IN THE ANCHORAGE INTERNATIONAL AIRPORT PARKING GARAGE /TERMINAL EXPANSION PHASE 2 PROJECT. COMPLIANCE HAS BEEN DETERMINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2003 INTERNATIONA BUILDING CODE AS AMENDED BY THE MUNICIPALITY OF ANCHORAGE.

# OCCUPANCY CLASSIFICATION

A-3 ASSEMBLY

**B BUSINESS** 

S-1 MODERATE HAZARD STORAGE

CONSTRUCTION TYPE TYPE II, A (ONE HOUR)

FIRE PROTECTION FULLY SPRINKLERED

# ALLOWABLE HEIGHT AND BUILDING AREA

BASE ALLOWABLE - 3 STORIES, 15,500 SF PER FLOOR BASED ON A-3 OCCUPANCY AND NONSEPARATED USES PER 302.3.1.

# ACTUAL HEIGHT AND BUILDING AREA

**HEIGHT - 2 STORIES** 8,505 SF EXISTING LOWER FLOOR EXISTING UPPER FLOOR 1,704 SF

# DRAWING INDEX:

PROJECT INFORMATION PLANS & SECTION

MECHANICAL UPGRADES MECHANICAL UPGRADES

ELECTRICAL LEGEND, DETAILS & SCHEDULES

ELECTRICAL LIGHTING PLAN

ELECTRICAL POWER PLAN **ELECTRICAL SPECIFICATIONS** 

TED STEVENS ANCHORAGE INTERNATIONAL AIRPORT - LEVEL 1

ARCHITECTURE

Renovation Lobby Transpor al, Ted St Terminal, Ground

CSS/FWP Drawn Checked JUNE 2007 Revisions XXX BA 0515

PERMIT **DRAWINGS** 

INFORMATION

**PROJECT** COMPLETENESS OF THE INFORMATION CONTAINED HEREIN, EXPRESSED OR IMPLIED.

11"X17" DRAWINGS ARE HALF-SIZE, DRAWING SCALES SHOULD BE ADJUSTED ACCORDINGLY

10,209 SF **ELECTRICAL ROOM** MECHANICAL ROOM **GROUND TRANSPORTATION LOBBY** DASHED LINE INDICATES EXISTING UASHEU LINE INUICATES EXISTING

UASHEU LINE INUICATES EXISTING

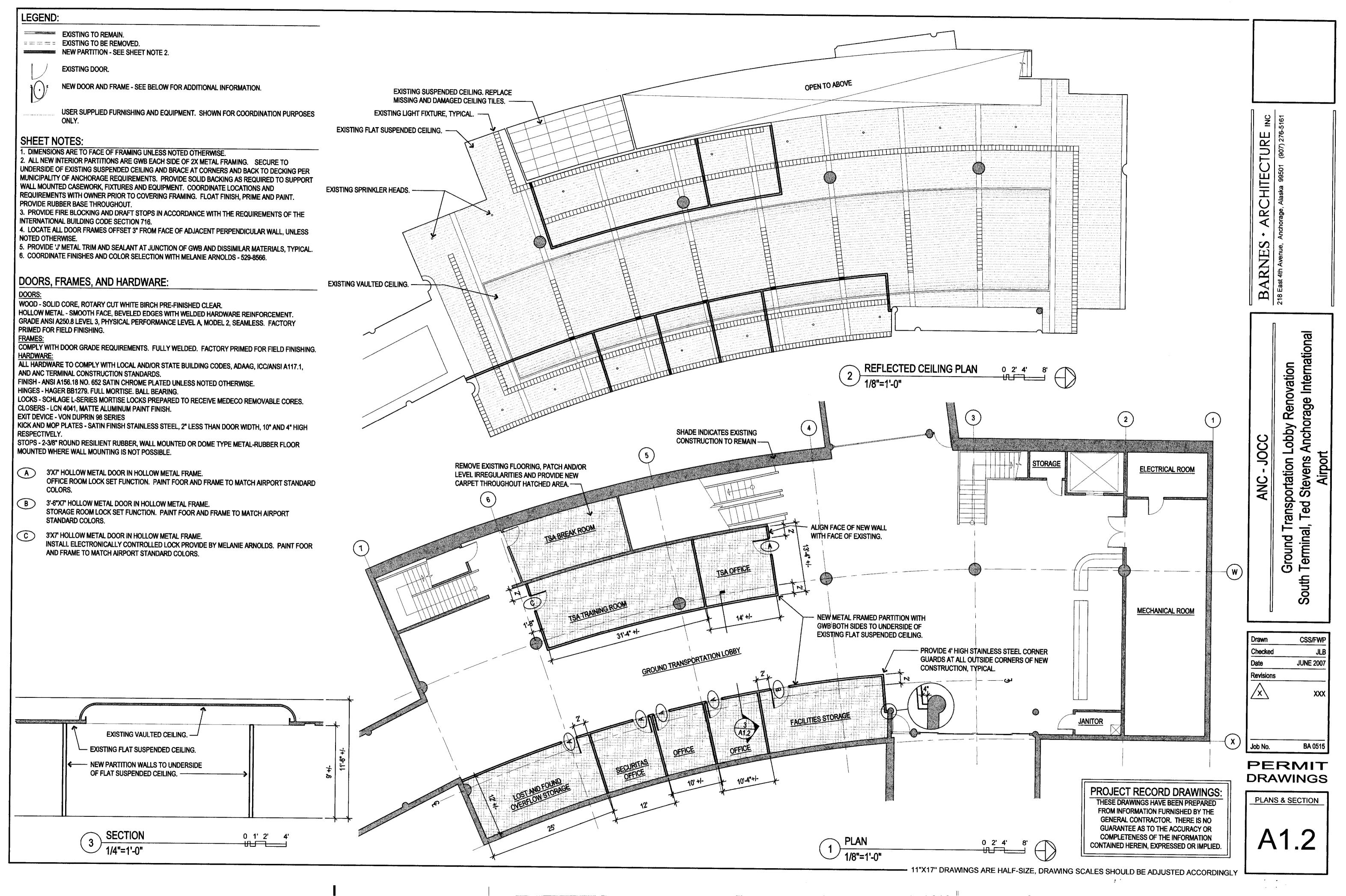
CASEWORK AND RAISED PLATFORM

CASEWORK TO BE REMOVED.

FLOORING TO BE REMOVED. **JANITOR** PROJECT RECORD DRAWINGS: THESE DRAWINGS HAVE BEEN PREPARED FROM INFORMATION FURNISHED BY THE GENERAL CONTRACTOR. THERE IS NO GUARANTEE AS TO THE ACCURACY OR

**EXISTING PLAN** 

1/8"=1'-0"



| ELECTRICAL LOAD CALCULATION   |   |
|---|---|
| PROJECT: AIA – GROUND ANCHORAGE, ALASKA 7/9/2007  | TRANSPORTATION LOBBY  |
| EXISTING PANEL P (200A, 208V, 3 PHASE, 4W) REMOVED LOAD: RECEPTACLES ADDED NEW LOAD: RECEPTACLES TOTAL NET CHANGE ON PANEL P:                               | 39 @ 180 (7,020) VA<br>5 @ 180 900 VA<br>(6,120) VA<br>(17.0) A       |
| EXISTING PANEL SP (200A, 208V, 3 PHASE, 4W REMOVED LOAD: RECEPTACLES ADDED NEW LOAD: RECEPTACLES TOTAL NET CHANGE ON PANEL SP:                              | 54,000 VA<br>4 © 180 (720) VA<br>8 © 180 1,440 VA<br>54,720 VA<br>2 A |
| EXISTING PANEL L (200A, 277/480V, 3 PHASE, REMOVED LOAD: LIGHTING ADDED NEW LOAD: LIGHTS AT 125% TOTAL ADDED LOAD TO PANEL L:  TOTAL NET CHANGE ON PANEL L: | 4W) 4,550 VA<br>0 VA<br>2,750 VA<br>                                  |

|                            | LEGEND  |
|----------------------------|---|
|                            | FLUORESCENT FIXTURE - RECESS MTD  |
| <u> </u>                   | FLUORESCENT FIXTURE STRIP - SURFACE MTD CLG   |
| H\$                        | EXIT SIGN - WALL MTD  |
| 4                          | EMERGENCY LIGHT   |
| $\langle A \rangle$        | FIXTURE TAG (LETTER INDICATES TYPE)   |
| 1>                         | NOTE TAG (No. INDICATES NOTE)   |
| _                          | PANEL   |
| (1)                        | JUNCTION BOX  |
| Ф                          | DUPLEX RECEPTACLE   |
| <b>#</b>                   | QUADRAPLEX RECEPTACLE   |
| \$                         | SINGLE POLE SWITCH  |
| AFF                        | ABOVE FINISHED FLOOR  |
| △\( AIA                    | ANCHORAGE INTERNATIONAL AIRPORT   |
| E                          | EXISTING  |
| ЕМ                         | EMERGENCY   |
|                            | CONDUIT, CONCEALED  |
| #10                        | NUMBER AND SIZE OF WIRES (NO MARKS = 3 #12)   |
| A-2                        | HOMERUN TO PANEL (PANEL AND CIRCUIT No.)  |
| $\triangle$ $\mathbf{V}_2$ | TELECOMMUNICATIONS OUTLET (COMBINATION TELEPHONE & DATA), NUMBER DESIGNATES AMOUNT OF CABLE DROPS |
| TIB \                      | TELEPHONE TERMINAL BACKBOARD  |
| ② <sub>p</sub>             | SMOKE DETECTOR (PHOTOELECTRIC)  |
| FACP                       | FIRE ALARM CONTROL PANEL  |

| FIXTURE SCHEDULE |          |  |   |                      |     |                    |          |
|------------------|----------|--|---|----------------------|-----|--------------------|----------|
| TYPE             | LOCATION | MANUFACTURER AND CATALOG<br>NUMBER (OR APPROVED EQUAL) | DESCRIPTION   | MOUNTING TYPE HEIGHT |     | LAMPS<br>NO. WATTS |          |
| Α                | AS SHOWN | LITHONIA<br>C232-277-GEB10-WGCUN                       | (2) LAMP, 4' FLUROSCENT STRIP WITH MOTOROLA<br>18 RAPID START NORMAL OUTPUT AND 10%<br>ELECTRONIC BALLAST AND WIRE GUARD. | SURFACE              | CLG | 2                  | 32<br>T8 |

ANC — JOCC Ground Transportation Lobby Temporary Relocation, South Terminal ed Stevens Anchorage International Airport

RSA Engineering, Inc.
2222 Actb Goldberd, Sille 200
Anchorage, AX 89603 (907) 276-0221
Mestle, Anske 99664 (907) 327-1321
Mestle, Anske 99664 (907) 327-1321

BARNES · ARCHITECTURE INC 218 East 4th Avenue, Anchorage, Alaska 99501 (907) 276-5161

Drawn TEH
Checked MAD
Date JUNE 2007
Revisions

JULY 9, 2007

Job No. K7081.00

## PROJECT RECORD DRAWINGS

THESE DRAWINGS HAVE BEEN PREPARED FROM INFORMATION FURNISHED BY THE GENERAL CONTRACTOR. THERE IS ABSOLUTELY NO GUARANTEE AS TO THE ACCURACY OF THE INFORMATION CONTAINED HEREIN, EITHER EXPRESSED OR IMPLIED.

# PERMIT DRAWINGS

ELECTRICAL LEGEND, DETAILS & SCHEDULES

E0



DC.

Engineering,
DELECTRICAL CONSULTING EN
191 SWAINSON AND INC.

d

Airport

International

Ted

JUNE 2007

K7081.00

JULY 9, 2007

**ARCHITECTURE** 

### NOTES:

- THE INFORMATION SHOWN ON THE PARTIAL DEMOLITON PLAN IS TAKEN FROM AS-BUILT DRAWINGS AND A CASUAL WALK THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE—IN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS SCHEDULED FOR DEMOLITION PRIOR TO
- THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL SALVAGEABLE MATERIALS. THE CONTRACTOR SHALL DELIVER SALVAGED MATERIALS TO A WAREHOUSE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL DISPOSE OF, OFF SITE, ALL UNWANTED MATERIALS.
- DASHED OR DOTTED LINES INDICATE EXISTING ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

EXISTING RECESSED CEILING FIXTURES IN THIS AREA ARE TO REMAIN.

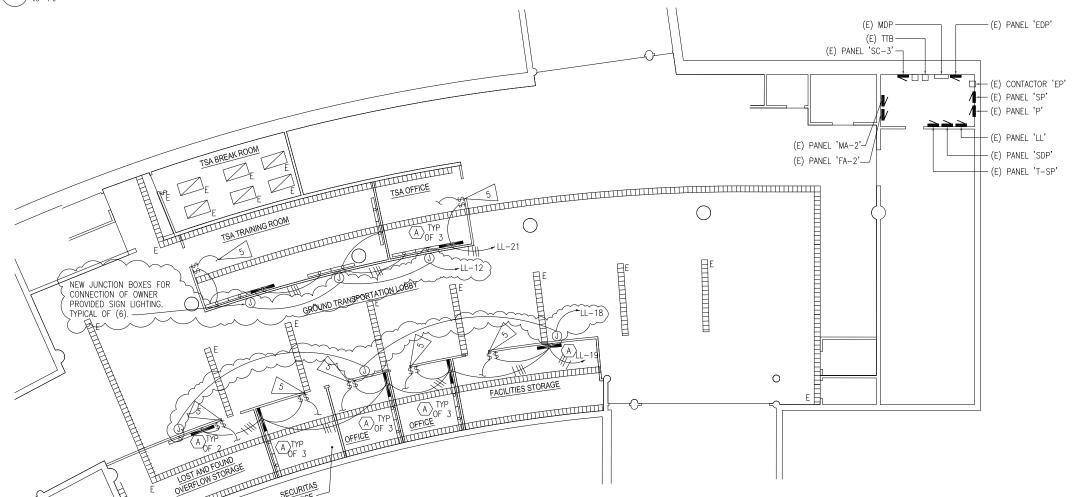
PROVIDE ADDITIONAL SWITCH LEG TO LOCALLY CONTROL EXISTING LIGHTS IN THESE ROOMS. LIGHTS LOCATED IN LOBBY AREA SHALL BE CONTROLLED BY EXISTING SWITCHING.

0

P-15 (H)

PARTIAL ELECTRICAL DEMOLITION PLAN

ELECTRICAL REMODEL LIGHTING PLAN



## PROJECT RECORD DRAWINGS

THESE DRAWINGS HAVE BEEN PREPARED FROM INFORMATION FURNISHED BY THE GENERAL CONTRACTOR. THERE IS ABSOLUTELY NO GUARANTEE AS TO THE ACCURACY OF THE INFORMATION CONTAINED HEREIN, EITHER EXPRESSED

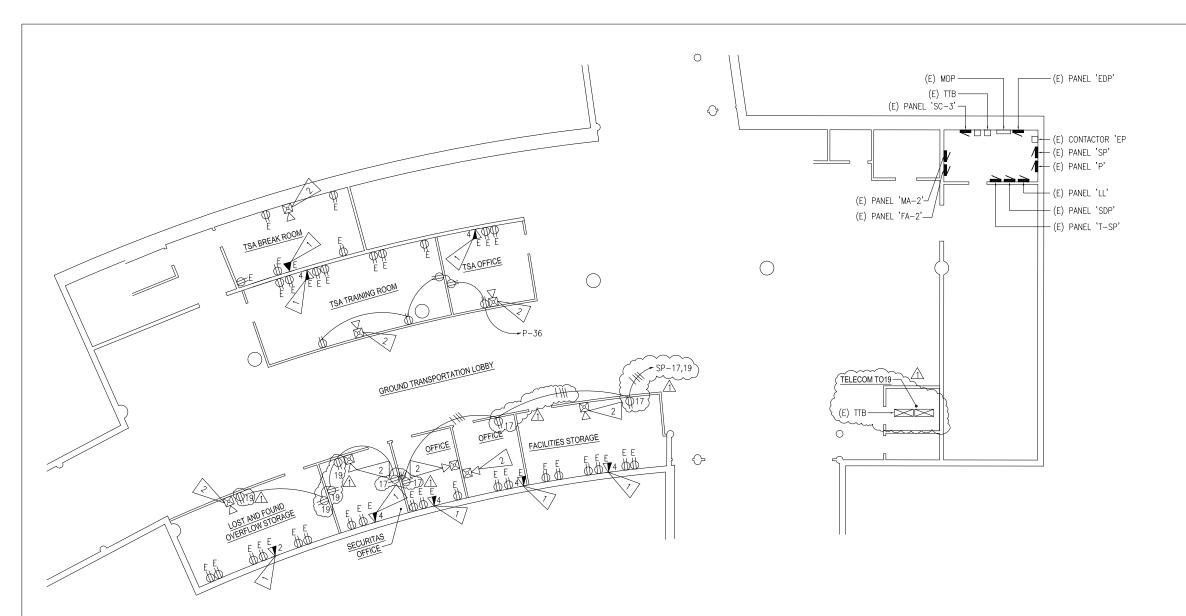
### **PERMIT DRAWINGS**

Drawn

Checked

Revisions Δ

ELECTRICAL LIGHTING PLAN



1 ELECTRICAL REMODEL POWER & SIGNAL PLAN

NOTES:

1. PROVIDE NEW CAT 5E CABLE DROPS TO THE EXISTING TELECOMMUNICATION OUTLET, AND CONNECT TO THE EXISTING PATCH PANEL IN EXISTING TELECOM ROOM TO19. SEE AIA SPECIFICATIONS FOR CABLE DISTRIBUTION REQUIREMENTS.

2. CONNECT NEW FIRE ALARM DEVICES TO EXISTING INITIATING DEVICE CIRCUITS. EXISTING SYSTEM IS SIEMENS. SEE ANCHORAGE TERMINAL CONSTRUCTION STANDARDS 16723. CONTRACTOR TO COORDINATE WITH SIEMENS REPRESENTATIVE TO PROGRAM FIRE ALARM SYSTEM FOR



#### PROJECT RECORD DRAWINGS

THESE DRAWINGS HAVE BEEN PREPARED FROM INFORMATION FURNISHED BY THE GENERAL CONTRACTOR. THERE IS ABSOLUTELY NO GUARANTEE AS TO THE ACCURACY OF THE INFORMATION CONTAINED HEREIN, EITHER EXPRESSED OR IMPLIED.

BARNES · ARCHITECTURE

218 East 4th Avenue, Anchorage, Alaska 99501 (907) 276-

RSA A

Ground Transportation Lobby Temporary Relocation, South Terminal Ted Stevens Anchorage International Airport

JOCC

ANC

Date JUNE 2007
Revisions

JULY 9, 2007

Drawn

Checked

Job No.

TEH

MAD

K7081.00

#### PERMIT DRAWINGS

ELECTRICAL POWER PLAN



SCOPE OF WORK - FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT FOR AN EXTENSION TO THE EXISTING ELECTRICAL SYSTEM AS INDICATED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.

STANDARDS, CODES AND REGULATIONS — COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, INTERNATIONAL BUILDING CODE, AND INTERNATIONAL FIRE CODE INCLUDING ALL STATE AND LOCAL AMENDMENTS TO THESE CODES AND THE ANC TERMINAL CONSTRUCTION STANDARDS

DRAWINGS - THE DRAWINGS ARE DIAGRAMMATIC, NOT NECESSARILY SHOWING ALL OFFSETS OR EXACT LOCATIONS OF FIXTURES, EQUIPMENT, ETC. UNLESS SPECIFICALLY DIMENSIONED. REVIEW THE DRAWINGS AND SPECIFICATIONS FOR FOLIPMENT FURNISHED BY OTHER CRAFTS BUT INSTALLED IN ACCORDANCE WITH THIS SECTION. BRING QUESTIONABLE OR OBSCURE ITEMS, APPARENT CONFLICTS BETWEEN PLANS AND SPECIFICATIONS, GOVERNING CODES OR UTILITIES REGULATIONS TO THE ATTENTION OF THE ARCHITECT, CODES, ORDINANCES, REGULATIONS, MANUFACTURER'S INSTRUCTIONS OR TAKE PRECEDENCE WHEN THEY ARE MORE STRINGENT OR CONFLICT WITH THE DRAWINGS AND SPECIFICATIONS.

RECORD DRAWINGS - MARK UP A CLEAN SET OF DRAWINGS AS THE WORK PROGRESSES TO SHOW THE DIMENSIONED LOCATION AND ROUTING ALL ELECTRICAL WORK WHICH WILL BECOME PERMANENTLY CONCEALED. SHOW ROUTING OF WORK IN PERMANENTLY CONCEALED BLIND SPACES WITHIN THE BUILDING. SHOW COMPLETE ROUTING AND SIZING OF ANY SIGNIFICANT REVISIONS TO THE SYSTEMS SHOWN.

WORKMANSHIP - INSTALLATION OF ALL WORK SHALL BE MADE SO THAT ITS SEVERAL COMPONENT PARTS SHALL FUNCTION AS A WORKABLE SYSTEM COMPLETE WITH ALL ACCESSORIES NECESSARY FOR ITS OPERATION. ALL MATERIAL AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS INSTRUCTIONS AND/OR INSTALLATION DRAWINGS AND IN ACCORDANCE WITH NECA STANDARDS. MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL CONFORM WITH APPLICABLE INDUSTRY STANDARDS, NEMA STANDARDS AND UNDERWRITERS LABORATORIES STANDARDS WHERE APPLICABLE

SUBMITTALS - PROVIDE MATERIAL AND EQUIPMENT SUBMITTALS CONTAINING A COMPLETE LISTING OF MATERIAL AND EQUIPMENT SHOWN ON THE DRAWINGS. INCLUDE CATALOG NUMBERS. WIRING DIAGRAMS, ROUGH-IN DIMENSIONS AND PERFORMANCE DATA FOR ALL MATERIAL AND EQUIPMENT. SUBMITTALS SHALL BE BOUND IN HARD COVER, LOOSE-LEAF BINDERS SEPARATE FROM WORK FURNISHED UNDER OTHER DIVISIONS, INDEX AND CLEARLY IDENTIFY ALL MATERIAL AND EQUIPMENT BY ITEM, NAME OR DESIGNATION USED ON THE DRAWINGS SUBMITTAL REVIEW IS FOR GENERAL DESIGN AND ARRANGEMENT ONLY AND DOES NOT RELIEVE THE CONTRACTOR FROM ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE SUBMITTALS ARE NOT CHECKED FOR QUANTITY, DIMENSION, OR FOR PROPER OPERATION. WHERE DEVIATIONS OF A SUBSTITUTE PRODUCT OR SYSTEM PERFORMANCE HAVE NOT BEEN SPECIFICALLY NOTED IN THE SUBMITTAL BY THE CONTRACTOR, PROVISIONS OF A COMPLETE AND SATISFACTORY WORKING INSTALLATION IS THE SOLE RESPONSIBILITY OF THE

WARRANTY - THE CONTRACTOR SHALL GUARANTEE ALL WORK EXECUTED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM BENEFICIAL OCCUPANCY. ANY FAULTY MATERIALS OR WORKMANSHIP SHALL REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER DURING THE GUARANTEE PERIOD.

PERMITS - SECURE AND PAY FOR ALL FEES, PERMITS, ETC. REQUIRED BY LOCAL AND STATE AGENCIES.

REFERENCE SYMBOLS - THE ELECTRICAL "LEGEND" ON THE DRAWINGS IS A STANDARDIZED VERSION, AND ALL SYMBOLS SHOWN MAY NOT BE USED. USE THE "LEGEND" AS A REFERENCE FOR THE SYMBOLS USED ON THE DRAWINGS

IDENTIFICATION - JUNCTION BOXES: MARK ALL CIRCUIT NUMBERS OF WIRING ON ALL JUNCTION BOXES WITH SHEET STEEL COVERS MARK WITH INDELIBLE BLACK MARKER. ON EXPOSED JUNCTION BOXES IN PUBLIC AREAS. MARK ON INSIDE OF COVER. MARK ALL FIRE ALARM SYSTEM JUNCTION BOXES WITH SHEET STEEL COVERS MARK WITH INDELIBLE RED MARKER. MARK ALL OTHER SPECIAL SYSTEM JUNCTION BOXES WITH SHEET STEEL CONDUIT — ALL WIRING SHALL BE INSTALLED IN METALLIC RACEWAY. RACEWAY SHALL BE INSTALLED CONCEALED EXCEPT AT SURFACE MOUNTED CABINETS AND EQUIPMENT CONNECTIONS. INSTALL AN INSULATED EQUIPMENT GROUNDING CONDUCTOR IN ALL RACEWAYS. ELECTRICAL METALLIC TUBING MAY BE USED IN ALL CONCEALED, DRY. INTERIOR LOCATIONS, COMPLETELY AND THOROUGHLY SWAB RACEWAY SYSTEM BEFORE INSTALLING CONDUCTORS.

CONDUCTORS - ALL CONDUCTORS SHALL BE COPPER WITH TYPE XHHW, THWN THW OR THEN INSULATION MINIMUM BRANCH CIRCUIT CONDUCTOR SIZE SHALL BE 12 AWG. MINIMUM CONTROL CIRCUIT CONDUCTOR SIZE SHALL BE #18 AWG. WIRING IN LIGHTING FIXTURE CHANNELS SHALL BE COPPER WITH TYPE XHHW OR OTHER INSULATION RATED 90 DEGREES C OR HIGHER, 600 VOLT. PULL ALL CONDUCTORS INTO THE RACEWAY AT THE SAME TIME. COLOR CODE CONDUCTORS AS FOLLOWS: 120/208 VOLT SYSTEMS: BLACK, RED, BLUE AND WHITE; 277/480 VOLT SYSTEMS: BROWN, ORANGE, YELLOW, AND WHITE WITH AN IDENTIFIABLE COLORED STRIPE. USE PROPERLY SIZED INSULATED SPRING WIRE CONNECTORS WITH PLASTIC CAPS FOR ALL CONDUCTORS #8 AWG AND SMALLER.

OUTLET BOXES - PROVIDE GALVANIZED OR CADMIUM PLATED. ONE PIECE PRESSED STEEL OUTLET BOXES 4 INCH SQUARE OR OCTAGONAL, 1/2 INCHES DEEP MINIMUM SIZE FOR USE IN INTERIOR AREAS. TELECOMMUNICATIONS SYSTEMS, TELEPHONE SYSTEM, COMPUTER LAN SYSTEMS OUTLET BOXES SHALL BE 4 INCHES SQUARE, 2-1/8 INCHES DEEP MINIMUM. PROVIDE FIXTURE OUTLETS WITH 1/2 INCH MALE FIXTURE STUDS AS REQUIRED. PROVIDE OUTLET BOXES AS SHOWN ON THE DRAWINGS, AND AS REQUIRED FOR SPLICES, TAPS WIRE PULLING, EQUIPMENT CONNECTIONS, DEVICE INSTALLATION AND CODE COMPLIANCE. DO NOT INSTALL BOXES BACK-TO-BACK IN PROVIDE A MINIMUM 6 INCH SEPARATION FOR MINIMUM SOUND TRANSMISSION. USE MULTIPLE-GANG BOXES WHERE MORE THAN ONE DEVICE ARE MOUNTED TOGETHER; DO NOT USE SECTIONAL BOXES. SUPPORT BOXES INDEPENDENTLY OF CONDUIT. COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF OUTLETS MOUNTED ABOVE COUNTERS, BENCHES AND BACKSPLASHES.

RECEPTACLES - PROVIDE NEMA 5-20R DUPLEX GROUNDING TYPE RECEPTACLES WITH IVORY FINISH, UL NO. 498 APPROVED, SELF-GROUNDING, CERTIFIED TO COMPLY WITH NEMA WD-1-4.02 THROUGH 4.11, 1979 TESTS. SCREW TERMINAL OR SCREW CLAMP TYPE ONLY. SPRING CLAMPED TYPE TERMINATIONS ARE NOT ACCEPTABLE PROVIDE DUPLEX CONVENIENCE RECEPTACLES WITH CLASS GROUND FAULT CURRENT INTERRUPTER WITH INTEGRAL LOCKOUT FUNCTION THAT MEETS UL 943 (2003) REQUIREMENTS PROVIDE SPECIFIC-USE RECEPTACLES WHERE INDICATED ON THE UNLESS OTHERWISE NOTED ON THE DRAWINGS, INSTALL DRAWINGS. RECEPTACLES 18 INCHES ABOVE FINISH FLOOR, 4 INCHES ABOVE COUNTERS AND BACKSPLASHES WITH GROUNDING POLE ON BOTTOM. UNLESS OTHERWISE NOTED DIMENSIONS ARE TO CENTERLINE OF

SWITCHES - PROVIDE NEMA WD-1 20 AMPERE, 120/277 VOLT AC GENERAL-USE SNAP SWITCH, MEETING ALL REQUIREMENTS OF FEDERAL SPECIFICATION WS-896. UL NO. 20 LISTED. SELF-GROUNDING BINDING SCREW TYPE TERMINALS WITH IVORY TOGGLE, SINGLE POLE, OR, THREE WAY AS INDICATED ON THE DRAWINGS.

DEVICE PLATES - PROVIDE UL LISTED ONE PIECE ROUNDED EDGE STREAMLINE" DESIGN FLUSH DEVICE PLATES OF SATIN FINISH 430 302 STAINLESS STEEL WITH METAL, COUNTER SUNK SCREWS TO MATCH DEVICE PLATE. PROVIDE GALVANIZED DEVICE PLATES WHERE EXPOSED WIRING IS PERMITTED. LABEL EACH RECEPTACLE DEVICE PLATE OR POINT OF CONNECTION DENOTING THE PANELBOARD NAME AND CIRCUIT NUMBER. INSTALL ADHESIVE LABEL ON THE TOP OF FACH PLATE

LIGHTING EQUIPMENT - PROVIDE AND INSTALL ALL LIGHTING EQUIPMENT OR APPROVED EQUAL AS SHOWN ON THE DRAWINGS AND DESCRIBED IN THE "FIXTURE SCHEDULE". PROVIDE LIGHTING EQUIPMENT COMPLETE, WIRED, ASSEMBLED, WITH PROPER FLANGES, MOUNTING SUPPORTS, HARDWARE, ETC. PROVIDE ENERGY SAVING LAMPS AND ELECTRONIC BALLAST WITH A MAXIMUM THD OF 10% AND A MINIMUM BALLAST FACTOR OF .88 FOR ALL FLUORESCENT FIXTURES. UNLESS OTHERWISE NOTED ON THE DRAWINGS, FLUORESCENT LAMPS SHALL BE TCLP COMPLIANT, 3500 DEGREE K, TRI-PHOSPHOR TYPE WITH A MINIMUM CRI OF 82.

COMMUNICATIONS CABLE AND EQUIPMENT - PROVIDE CABLES. CONNECTORS, FACEPLATES, CABLE SUPPORTS, ETC AS REQUIRED FOR THE ADDITION TO THE EXISTING TELECOMMUNICATIONS SYSTEM. CABLE SHALL BE CONTINUOUS FROM THE ORIGINATING EQUIPMENT TO THE DESTINATION TERMINATION. ALL PRODUCTS SHALL BE OF ONE MANUFACTURER'S STRUCTURED CABLING SYSTEM. THE MANUFACTURER SHALL BE A COMPANY SPECIALIZING IN MANUFACTURING PRODUCTS SPECIFIED WITH A MINIMUM 5 YEARS DOCUMENTED EXPERIENCE. THE INSTALLER SHALL BE A COMPANY SPECIALIZING IN PERFORMING THIS TYPE OF WORK WITH A MINIMUM 3 YEARS DOCUMENTED EXPERIENCE AND MANUFACTURER'S CERTIFICATION TO INSTALL THE PRODUCT. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS: TIA/EIA 568-B.1-3, TIA/EIA 569-A, AND TIA/EIA 607. ALL WORK SHALL BE IN ACCORDANCE WITH THE ANC TERMINAL CONSTRUCTION STANDARDS SECTION 16745. UNIQUE IDENTIFICATION LABELS SHALL PROVIDED FOR EACH JACK AND CABLE AT EACH PATCH PANEL AND WORKAREA OUTLET IN ACCORDANCE WITH TIA/EIA 606 AND THE ANC TERMINAL CONSTRUCTION STANDARDS SECTION 16745.

TELECOMMUNICATIONS CABLE - PROVIDE AND INSTALL CL2 CATEGORY 5E, 4-PAIR, 24 AWG, SOLID COPPER TELECOMMUNICATIONS CABLE. CABLE SHALL BE KRONE TYPE #TN5ESP-WT02, NO SUBSTITUTIONS ON UNLESS OTHERWISE NOTED, ALL CABLES SHALL INSTALLED IN CONDUIT FROM THE TELECOMMUNICATIONS JACK TO THE TELECOMMUNICATIONS ROOM. MINIMUM SIZE FOR CONDUIT IS INCH. BASED ON (6) CABLES OF 0.24 INCH DIAMETER. SEE AND TERMINAL CONSTRUCTION STANDARDS SECTION 16111-5 FOR CONDUIT RUNS OTHER THAN (6) CABLES OF 0.24 INCH DIAMETER. CABLES SHALL BE ROUTED A MINIMUM OF 5 INCHES FROM POWER LINES 2 KVA OR LESS. 12 INCHES FROM FLUORESCENT OR HID BALLASTS, 36 INCHES FROM POWER LINES 5 KVA OR GREATER, 40 INCHES FROM TRANSFORMERS AND MOTORS. STORE A MAXIMUM OF 12 INCHES OF SLACK CABLE AT EACH OUTLET AND A MINIMUM OF 10 FEET OF SLACK CABLE AT THE RACK. CABLE JACKET SHALL BE MAINTAINED TO WITHIN .5 INCH OF JACK AND TWISTS SHALL BE MAINTAINED TO .25 INCH OF TERMINATION POINT. COMPLY WITH CABLE MANUFACTURERS MAXIMUM PULLING TENSION AND MINIMUM BEND RADIUS REQUIREMENTS. DO NOT STRETCH, STRESS, TIGHTLY COIL. BEND OR CRIMP CABLES. CABLES SHALL BE ROUTED SO THAT CABLE DO NOT EXCEED 90 METERS PER REQUIREMENTS. PERFORM END-TO-END TESTS OF EACH CABLÉ ÁFTER INSTALLATION AND TERMINATION TO SHOW COMPLIANCE WITH ANSI/TIA/FIA REQUIREMENTS.

TELECOMMUNICATIONS JACKS - CATEGORY 5E, RJ-45, 8P8C, SINGLE TELECOMMUNICATIONS JACK SUITABLE FOR EITHER T568A OR B WIRING. KRONE TYPE "K610" #6467-5-181-20, NO SUBSTITUTIONS ON KRONE. THE CONTRACTOR SHALL VERIFY THE ACTUAL WIRING CONFIGURATION (T568A OR 568B) WITH THE OWNER PRIOR TO SUBMITTAL. UNLESS OTHERWISE NOTED, INSTALL ALL JACKS. IN A KRONE TYPE #6644-1-174-01 SINGLE-GANG 4-PORT 45° ANGLED

CABLE TESTING — EACH UTP CABLE SHALL BE TESTED FOR COMPLIANCE WITH TIA/EIA 568-B.1 AND TIA/EIA 568B.2 CATEGORY 5E STANDARDS AFTER INSTALLATION USING A HEWLETT PACKARD WIRESCOPE 350, MICROTEST OMNISCANNER, FLUKE DSP4100 OR APPROVED EQUAL TESTER. AT A MINIMUM, THE CONTRACTOR SHALL PROVIDE 100% TESTING FOR EACH "PERMANENT LINK" (I.E. FROM THE WORK AREA OUTLET TO THE PATCH PANEL) AND PERFORM THE FOLLOWING TESTS WITH THE MAXIMUM FREQUENCY OF THE TESTER SET AT 350MHZ: SIGNAL ATTENUATION / INSERTION LOSS, NEAR END CROSS TALK (NEXT), POWER SUM NEAR END CROSS TALK (PS-NEXT). EQUAL LEVEL FAR END CROSS TALK (ELFEXT), POWER SUM EQUAL FAR END CROSS TALK (PS-ELFEXT), ATTENUATION CROSSTALK RATIO (ACR), POWER SUM ATTENUATION TO CROSSTALK RATION (PS-ACR), PROPÁGATION DELAY, DELAY SKEW, RETURN LOSS, WIREMAP, AND OVERALL CABLE LENGTH. TEST, ANALYZE, AND RECORD COMPLIANCE FOR THE FOLLOWING NETWORK PROTOCOLS: BASE-T, 100 BASE-T, 1000 BASE-T, AND 155 MBPS ATM. PROVIDE TEST RESULTS FOR ALL TESTS NOTED ABOVE IN THE FORM OF PRINTOUTS FROM THE TEST EQUIPMENT AND PROVIDE AN ELECTRONIC COPY OF THE TEST DATA FOR EACH CABLE ON CD. PORTION OF THE SYSTEM DOES NOT MEET THE SPECIFICATIONS, THE CONTRACTOR SHALL CORRECT THE DEVIATION AND REPEAT ANY APPLICABLE TESTING AT NO ADDITIONAL COST TO THE OWNER. ACCEPTANCE OF THE TELECOMMUNICATIONS SYSTEM SHALL BE BASED ON THE RESULTS OF THE ABOVE TESTS, FUNCTIONALITY, AND THE RECEIPT OF DOCUMENTATION

FIRE ALARM - CONTRACTOR DESIGN AND INSTALL NEW DEVICES CONNECTED TO EXISTING LOOPS ON THE EXISTING SIEMENS BUILDING TECHNOLOGY ADDRESSABLE CLASS A FIRE ALARM DETECTION SYSTEM. THE FIRE ALARM DEVICES ON THE DRAWINGS ARE SHOWN IN SUGGESTED LOCATIONS, THE FINAL NUMBER AND LOCATION OF DEVICES SHALL BE IN ACCORDANCE WITH NFPA 72. THE FOLLOWING IS A PERFORMANCE SPECIFICATION DESCRIBING THE MINIMUM ACCEPTABLE FIRE ALARM SYSTEM. THE CONTRACTOR SHALL DESIGN AND INSTALL THE SYSTEM IN STRICT ACCORDANCE WITH NFPA 72 AND 101 AND ANC TERMINAL CONSTRUCTION STANDARDS SECTION SIGNALING AND NOTIFICATION DEVICES SHALL BE AS 16723

BASE AND VISUAL INDICATION OF DETECTOR ACTIVATION, SUITABLE FOR MOUNTING ON A 4 INCH OUTLET BOX.

THE COMPLETE FIRE ALARM SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND ANC TERMINAL CONSTRUCTION STANDARDS SECTION 16723. FIRE ALARM SYSTEM INITIATING WIRING SHALL BE #16 AWG MINIMUM, COPPER CONDUCTORS AND FIRE ALARM NOTIFICATION APPLIANCE WIRING SHALL BE #12 AWG MINIMUM, COPPER CONDUCTORS. ALL FIRE ALARM SYSTEM WIRING SHALL BE INSTALLED IN A METALLIC CONDUIT

PENETRATIONS OF FIRE BARRIERS — ALL ELECTRICAL PENETRATIONS THROUGH FIRE RATED BARRIERS SHALL BE SEALED IN ACCORDANCE WITH NEC ARTICLE 300-21 AND THE FOLLOWING:

ALL HOLES OR VOIDS CREATED TO EXTEND ELECTRICAL SYSTEMS THROUGH FIRE RATED WALLS OR CEILING SHALL BE SEALED WITH AN ASBESTOS—FREE INTUMESCENT FIRE STOPPING MATERIAL CAPABLE OF EXPANDING 8 TO 10 TIMES WHEN EXPOSED TO TEMPERATURES 250 DEGREES F OR HIGHER.

MATERIALS SHALL BE SUITABLE FOR THE FIRE STOPPING OF PENETRATIONS MADE BY STEEL, GLASS, PLASTIC AND SHALL BE CAPABLE OF MAINTAINING AN EFFECTIVE BARRIER AGAINST FLAME, SMOKE AND GASES IN COMPLIANCE WITH REQUIREMENTS OF ASTM E814, UL 1479 AND THE RESISTANCE DIRECTORY REQUIREMENTS FOR THROUGH-PENETRATION FIRESTOP DEVICES (XHCR).

THE RATING OF THE FIRE STOPS SHALL BE THE SAME AS THE TIME-RATED FLOOR, WALL OR CEILING ASSEMBLY.

INSTALL FIRE STOPPING MATERIALS IN ACCORDANCE WITH THE

SMOKE DETECTOR: NFPA 72, PHOTOELECTRIC TYPE WITH PLUG-IN

MANUFACTURER'S INSTRUCTIONS.

BARNES ۷ ഗ  $\mathbf{\alpha}$ Temporary JOCC

Airpor

٥ ا

<u>\_</u>

Engineering,

CHITECTURE

 $\check{\simeq}$ 

 $\overline{\triangleleft}$ 

International Lobby Temi Ith Terminal South Transportation Anchor Relocation, Stevens puno G Ted

ANC

TEH Drawn Checked МАГ JUNE 2007 Date Revisions

PERMIT

Job No.

#### PROJECT RECORD DRAWINGS

THESE DRAWINGS HAVE BEEN PREPARED FROM INFORMATION FURNISHED BY THE GENERAL CONTRACTOR. THERE IS ABSOLUTELY NO GUARANTEE AS TO THE ACCURACY OF THE INFORMATION CONTAINED HEREIN, EITHER EXPRESSED **DRAWINGS** 

ELECTRICAL SPECIFICATIONS

K7081.00

#### SHEET SPECIFICATIONS

PLANS - THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM. THE DRAWINGS ARE PARTLY DIAGRAMMATIC, NOT NECESSARILY SHOWING ALL OFFSETS OR EXACT LOCATIONS OF PIPING AND DUCTS UNLESS SPECIFICALLY DIMENSIONED. CONTRACTOR TO COORDINATE DIFFUSER LOCATIONS WITH ELECTRICAL PLANS TO AVOID CONFLICT.

COMPLETE PROJECT - THE INTENT OF THIS PROJECT IS TO LET ONE CONTRACT WHICH INCLUDES ALL WORK REQUIRED FOR A COMPLETE JOB. THIS INCLUDES ALL ELECTRICAL, CARPENTRY, PLUMBING, SHEET METAL, PAINTING, CLEAN UP, ETC. AS REQUIRED.

PERMITS - THE CONTRACTOR SHALL SECURE AND PAY FOR ALL NECESSARY PERMITS AND FEES.

CODE - ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), INTERNATIONAL MECHANICAL CODE (IMC), UNIFORM PLUMBING CODE (UPC) AND NATIONAL ELECTRICAL CODE (NEC) AS AMENDED BY THE STATE OF ALASKA AND LOCAL JURISDICTION. SHEET METAL WORK SHALL BE DONE IN ACCORDANCE WITH SMACNA STANDARDS.

INSURANCE - CONTRACTOR MUST PROVIDE BUILDERS' ALL RISK INSURANCE, WORKERS' COMPENSATION INSURANCE, AND GENERAL LIABILITY INSURANCE AT ALL TIMES WHILE WORKING ON THIS PROJECT.

WARRANTY - ALL WORK PERFORMED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM ACCEPTANCE. ANY FAULTY MATERIALS OR WORKMANSHIP SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER DURING THE GUARANTEE PERIOD.

ELECTRICAL WORK - ALL ELECTRICAL WORK IS TO BE PERFORMED BY A LICENSED ELECTRICIAN.

SEISMIC RESTRAINT - ALL EQUIPMENT INSTALLED UNDER THIS PROJECT SHALL BE BRACED FOR A SEISMIC EVENT IN ACCORDANCE WITH THE 2003 EDITION OF THE INTERNATIONAL BUILDING CODE. CONTRACTOR TO PROVIDE SHOP DRAWINGS TO THE MUNICIPALITY, OF THE MAKE-UP AIR UNIT AND SUPPORT STAND SHOWING ADEQUATE HOLD DOWN FORCE FOR WIND AND SEISMIC LOADING BY A LICENSED STRUCTURAL ENGINEER.

EQUIPMENT SUBSTITUTIONS - ALL EQUIPMENT LISTED IS REPRESENTATIVE OF THE STANDARD OF QUALITY AND PERFORMANCE REQUIRED. OR EQUAL SUBSTITUTIONS WILL BE CONSIDERED IF THE SUBSTITUTES ARE SHOWN TO BE EQUAL OR BETTER QUALITY, INCLUDING EFFICIENCY OF PERFORMANCE. SIZE AND WEIGHT.

MATERIALS - ALL MATERIALS SHALL BE NEW AND UNUSED, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND IN THE BEST PRACTICE OF THE CRAFT. OBTAIN OWNER'S APPROVAL OF ALL PRODUCTS PRIOR TO ORDERING OR INSTALLING ANY PART OF ANY SYSTEM.

SALVAGE EQUIPMENT - PRESENT ALL REMOVED EQUIPMENT TO THE OWNER. THE OWNER RETAINS THE RIGHT TO CLAIM ANY AND ALL SALVAGED EQUIPMENT AND MATERIALS. THOSE ITEMS NOT CLAIMED BY THE OWNER ARE TO BE HAULED OFF AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

DUCTWORK - PROVIDE GALVANIZED SHEET METAL RECTANGULAR OR ROUND DUCT WHERE CALLED OUT ON THE PLANS. SEAL ALL DUCT SEAMS AND JOINTS AIRTIGHT. USE TURNING VANES IN ALL SQUARE ELBOWS. INSTALL VOLUME DAMPERS AND EXTRACTORS WHERE SHOWN ON THE DRAWINGS. ALL SHEET METAL WORK TO BE CONSTRUCTED, INSTALLED, TESTED AND BALANCED IN ACCORDANCE WITH SMACNA STANDARDS.

INSULATION - PROVIDE 1" FIBERGLASS INSULATION WITH A COMPLETE FACTORY APPLIED VAPOR BARRIER JACKET ON ALL FLEXIBLE DUCT. PROVIDE 1" FIBERGLASS INSULATION WITH A COMPLETE FACTORY APPLIED VAPOR BARRIER JACKET ON ALL EXHAUST DUCTWORK WITHIN 5' OF EXTERIOR OPENINGS. INSULATE ALL HEATING WATER SUPPLY AND RETURN PIPING AND DOMESTIC HOT WATER PIPING WITH 1" PRE-FORMED FIBERGLASS INSULATION, COMPLETE WITH FACTORY VAPOR BARRIER AND PLASTIC COVERS FOR FITTINGS. INSULATE ALL COLD WATER PIPING WITH 1/2" INSULATION, COMPLETE WITH VAPOR BARRIER JACKET AND PLASTIC COVERS FOR FITTINGS. INSULATE ALL TYPE K SOFT COPPER PIPING BELOW GROUND WITH 1/2" CLOSED CELL FOAM INSULATION. INSULATE PLUMBING VTR'S DOWN 3' FROM ROOF WITH 1" FIBERGLASS PIPE INSULATION.

ACCESS - PROVIDE WORKABLE ACCESS TO ALL SERVICEABLE AND/OR OPERABLE EQUIPMENT.

BALANCE - THE CONTRACTOR SHALL BALANCE THE AIR SYSTEM TO THE SATISFACTION OF THE OWNER. AIRFLOWS ARE TO BE BALANCED TO WITHIN 10% OF INDICATED AIRFLOWS, PER AABC RECOMMENDED METHODS.

| AIR    |            |          |            |          |        |           |                    |     |       |                            |
|--------|------------|----------|------------|----------|--------|-----------|--------------------|-----|-------|----------------------------|
| SYMBOL | MFGR/MODEL | TYPE     | USE        | MATERIAL | FINISH | CFM       | FACE<br>SIZE (IN.) | NC  | THROW | REMARKS                    |
| Α      | TITUS/TMS  | DIFFUSER | SUPPLY AIR | ALUMINUM | WHITE  | PER PLANS | 12X12              | <25 |       | SEE PLAN FOR CEILING TYPE. |
| В      | TITUS/50F  | GRILLE   | RETURN AIR | ALUMINUM | WHITE  | PER PLANS | 12X12              | <25 |       | SEE PLAN FOR CEILING TYPE. |

| ABBRI | EVIATIONS                      |       |                           |      |                         |             |                          |
|-------|--------------------------------|-------|---------------------------|------|-------------------------|-------------|--------------------------|
| ABV   | ABOVE                          | CW    | COLD WATER                | FT-X | FINNED TUBE RADIATOR    | OBD         | OPPOSED BLADE DAMPER     |
| ADA   | AMERICAN WITH DISABILITIES ACT | DCW   | DOMESTIC COLD WATER       | FWS  | FIRE WATER SUPPLY       | PBD         | PARALLEL BLADE DAMPER    |
|       | GUIDELINES                     | DIA   | DIAMETER                  | G    | GAS                     | PD          | PRESSURE DROP            |
| AD    | ACCESS DOOR                    | DIM   | DIMENSION                 | GAL  | GALLONS                 | RA          | RETURN AIR               |
| AFF   | ABOVE FINISHED FLOOR           | DN    | DOWN                      | GPH  | GALLONS PER HOUR        | RP-X        | RADIANT PANEL DESIGNATOR |
| AFG   | ABOVE FINISHED GRADE           | DT-X  | DAY TANK DESIGNATOR       | GPM  | GALLONS PER MINUTE      | RPM         | REVOLUTIONS PER MINUTE   |
| AHAP  | AS HIGH AS POSSIBLE            | DWG   | DRAWING                   | GT-X | GLYCOL TANK DESIGNATOR  | SA          | SUPPLY AIR               |
| ARCH  | ARCHITECTURAL                  | Ε     | EXISTING                  | HC-X | HEATING COIL DESIGNATOR | TA          | TRANSFER AIR             |
| B–X   | BOILER DESIGNATOR              | EΑ    | EXHAUST AIR               | HD   | HEAD                    | TEMP        | TEMPERATURE              |
| BDD   | BACKDRAFT DAMPER               | EAT   | ENTERING AIR TEMPERATURE  | HGR  | HEATING GLYCOL RETURN   | TOD         | TOP OF DUCT              |
| BOD   | BOTTOM OF DUCT                 | EF-X  | EXHAUST FAN DESIGNATOR    | HGS  | HEATING GLYCOL SUPPLY   | TRANS       | TRANSITION               |
| BTUH  | BRITISH THERMAL UNIT/HOUR      | ENT   | ENTERING                  | HWR  | HOT WATER RETURN        | TSP         | TOTAL STATIC PRESSURE    |
| CA    | COMBUSTION AIR                 | ET-X  | EXPANSION TANK DESIGNATOR | HGS  | HOT WATER SUPPLY        | T'STAT      | THERMOSTAT               |
| CFM   | CUBIC FEET PER MINUTE          | EXIST | EXISTING                  | LAT  | LEAVING AIR TEMPERATURE | TYP         | TYPICAL                  |
| CIRC  | CIRCULATING                    | EXH   | EXHAUST                   | LF   | LINEAR FEET             | WCO         | WALL CLEAN OUT           |
| CLG   | CEILING                        | F     | FAHRENHE I T              | MAX  | MAXIMUM                 | <b>W/</b> 0 | WITHOUT                  |
| CO    | CLEAN OUT                      | FC0   | FLOOR CLEAN OUT           | MBH  | THOUSAND BTUH           | w/          | WITH                     |
| CONT  | CONTINUED                      | FD    | FIRE DAMPER               | MIN  | MINIMUM                 | VTR         | VENT THRU ROOF           |
| CONN  | CONNECTION                     | FLR   | FLOOR                     | NC   | NORMALLY CLOSED         | V           | VENT                     |
| CP-X  | CIRCULATION PUMP DESIGNATOR    | FPF   | FINS PER FOOT             | NO   | NORMALLY OPEN           | UPC         | UNIFORM PLUMBING CODE    |
| CUH-X | CABINET UNIT HEATER DESIGNATOR | FT    | FEET                      | OA   | OUTSIDE AIR             | UH-X        | UNIT HEATER DESIGNATOR   |

TURE Engineering, ND ELECTRICAL CONSULTING EN 191 Swanson Avenue, 77) 276-0521 Wasilla, Alaska 99654 ARCHITEC BARNES

GINEERS Suite 100 (907) 357-1521

MECHANICAL AI 2522 Ardic Boulevard, Sul Anchorage, AK 99503 (907) Airport

2000

Temporary Lobby 1c. 1 Terminal nternationa portation tion, Sout nchorage rans ocat s An

Drawn Checked **JUNE 2007** Revisions K7081.00 Job No.

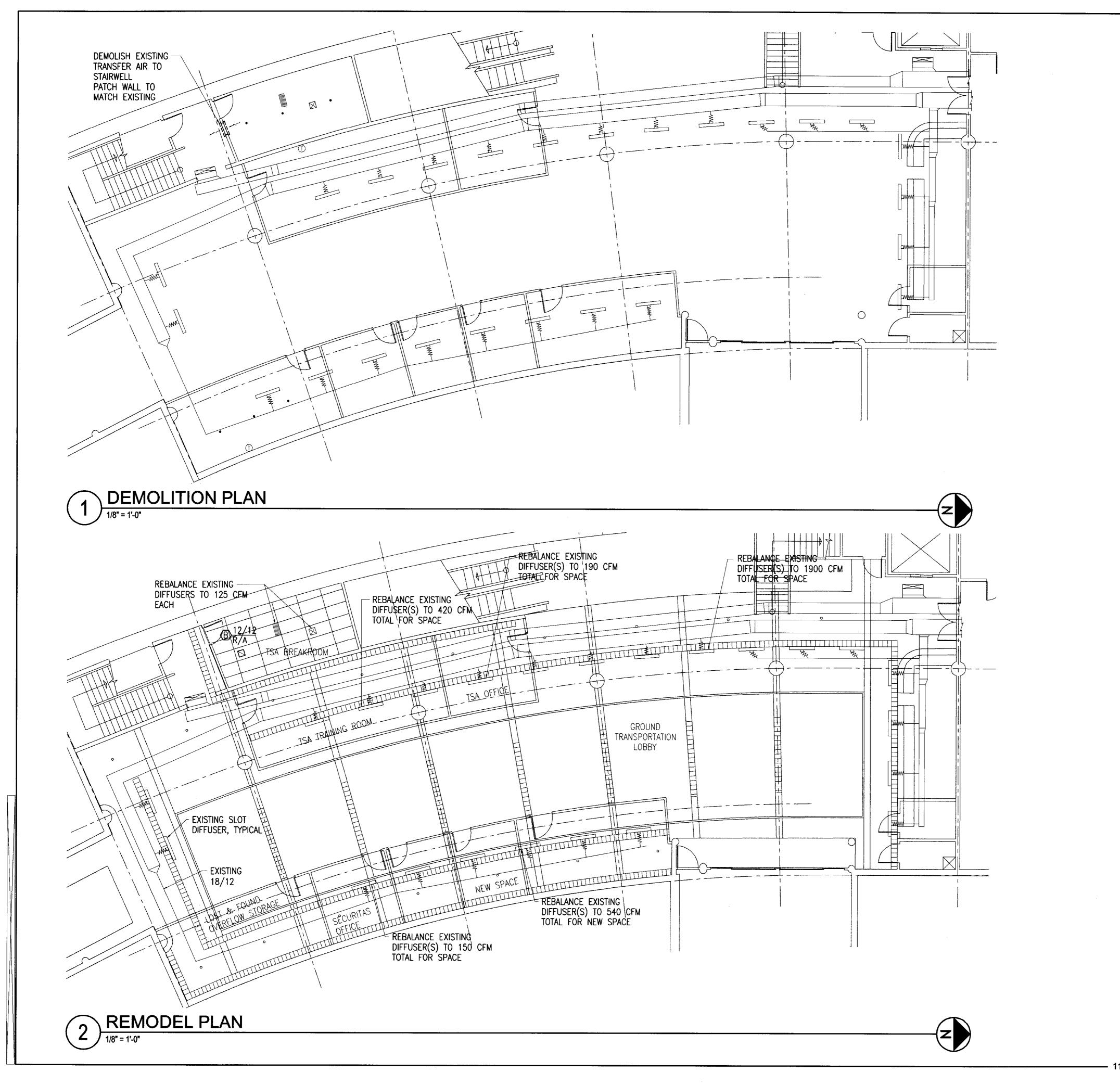
#### PROJECT RECORD DRAWINGS

THESE DRAWINGS HAVE BEEN PREPARED FROM INFORMATION FURNISHED BY THE GENERAL CONTRACTOR. THERE IS ABSOLUTELY NO GUARANTEE AS TO THE ACCURACY OF THE INFORMATION CONTAINED HEREIN, EITHER EXPRESSED OR IMPLIED.

## PERMIT **DRAWINGS**

MECHANICAL UPGRADES

11"X17" DRAWINGS ARE HALF-SIZE, DRAWING SCALES SHOULD BE ADJUSTED ACCORDINGLY



Engineering, Inc. 190 ELECTRICAL CONSULTING ENGINEERS 1200 191 Swanson Avenue, Suite 100 1200 Wasilla, Alaska 99654 (907) 337-1521 ARCHITECTURE

> Airport Lobby Temporary th Terminal International Airpor d Transportation Lo Relocation, South vens Anchorage Int Stevens Ground

JOCC

ANC

CMR Drawn RWF Checked **JUNE 2007** Revisions K7081.00

#### PERMIT PROJECT RECORD DRAWINGS **DRAWINGS**

THESE DRAWINGS HAVE BEEN PREPARED FROM INFORMATION FURNISHED BY THE MECHANICAL UPGRADES GENERAL CONTRACTOR. THERE IS ABSOLUTELY NO GUARANTEE AS TO THE ACCURACY OF THE INFORMATION CONTAINED HEREIN, EITHER EXPRESSED

OR IMPLIED.

M2

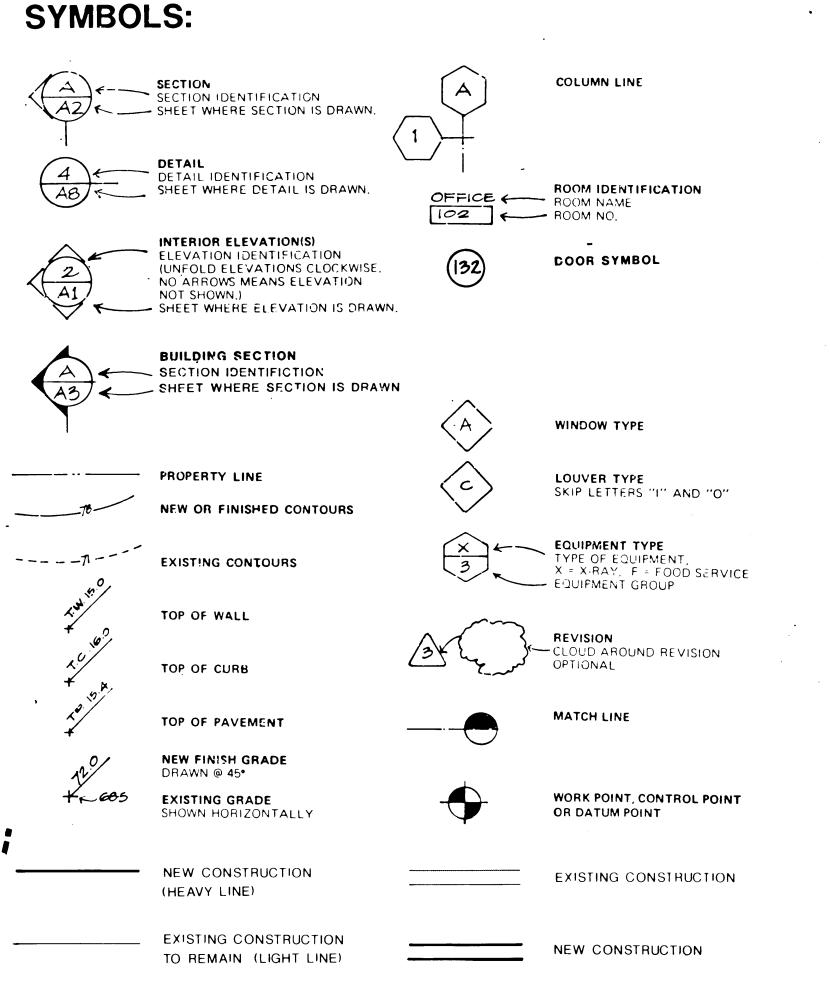
Job No.

#### ARCHITECTURAL ABBREVIATIONS:

| B.                | And                                     | F.E.           | Fire Extinguisher           | PL.          | Plate                               |
|-------------------|---|----------------|-----------------------------|--------------|-------------------------------------|
| <del>-</del><br>[ | Angie                                   | F.E.C.         | Fire Extinguisher Cab.      | P.LAM.       | Plastic Laminate                    |
| -<br>D            | At                                      | F.H.C.         | Fire Hose Cabinet           | PLAS.        | Plaster                             |
|                   | Centerline                              | FIN.           | Finish                      | PLYWD.       | Plywood                             |
| þ                 | Diameter or Round                       | FL.            | Floor                       | PR.          | Pair                                |
|                   | Perpendicular Perpendicular             | FLASH.         | Flashing                    | PT.          | Point                               |
| _<br>•            | Pound or Number                         | FLUOR.         | Fluorescent                 | P.T.D.       |                                     |
| #<br>E\           |   | F.O.C.         |                             |              | Faper Towel Dispenser               |
| E)                | Existing                                |                | Face of Concrete            | P.T.D/R      | Combination Paper Towel             |
| ACOUS.            | Acoustical                              | F.O.F.         | Face of Finish              | 5-11         | Dispenser & Receptacle              |
|                   |   | F.O.S.         | Face of Studs               | PTN.         | Partition                           |
| A.D.              | Area Drain                              | FPRF.          | Fireproof                   | P.T.R.       | Paper Towe! Receptacle              |
| ADJ.              | Adjustable                              | F.S.           | Full Size                   |              |                                     |
| AGGR.             | Aggregate                               | FT.            | Foot or Feet                | Q.T.         | Quarry Tile                         |
| AL.               | Aluminum                                | FTG.           | Footing                     | <b>4.</b> 1. | addity the                          |
| APPROX.           | • | FURA.          | Furring                     | R.           | Riser                               |
| ARCH.             | Architectural                           | FUT.           | Future                      | r.<br>RAD.   | Radius                              |
|                   |   |                |                             | -            |                                     |
| ASPH.             | Asphalt                                 | GA.            | Gauge                       | R.D.         | Roof Drain                          |
|                   |   | GALV.          | Galvanized                  | REF.         | Reference                           |
| BD.               | Board                                   | G.B.           | Grab Bar                    | REFR.        | Refrigerator                        |
| BITUM.            | Bituminous                              | G.b.           |                             | RGTR.        | Register                            |
| BLDG.             | Building                                | GYD.           | Glass                       | REINF.       | Reinforced                          |
| BLBG.<br>BLK.     | Block                                   |                | Ground                      | REQ.         | Required                            |
| BLKG.             |   | GR.            | Grade                       | RESIL.       | Resilient                           |
|                   | Blocking                                | GYP.<br>G.W.B. | Gypsum<br>Gypsum Wall Board | RM.          | Roum                                |
| BM.               | Beam                                    | G.W.B.<br>HCP  | Gypsum Wall Board Handicap  | <b>R</b> .O. | Rough Opening                       |
| BOT.              | Bottom                                  | H.B.           | Hose Bibb                   | RWD.         | Redwood                             |
| 3.0.              | Bottom of                               | H.C.           | Hollow Core                 | R.W.L.       | Rain Water Leader                   |
| CAB.              | Cabinet                                 | EDWD.          | Hardwood                    |              |                                     |
| C.B.              | Catch Basin .                           | HOWE.          | Hardware                    | c            | Courth                              |
| CEM.              | Cement                                  | H.M.           | Hollow Metal                | S.           | South                               |
| CER.              | Ceramic                                 | HORIZ.         | · -                         | S.C.         | Solid Core                          |
| C.G.              | Corner Guard                            |                | Horizontal                  | S.C.D.       | Seat Cover Dispenser                |
| CLG.              | Ceiling                                 | HR.            | Hour                        | SCHED.       | Schedule                            |
| CLKG.             | Calking                                 | HGT.           | Height                      | <b>S</b> .D. | Soap Dispenser                      |
| CLO.              | Closet                                  | H.D.           | Hair Dryer                  | SECT.        | Section                             |
| CLR.              | Clear                                   | 1.D.           | Inside Diameter (Dim.)      | SH.          | Shelf                               |
| COL.              | Column                                  | INSUL.         | Insulation                  | SHR.         | Shower                              |
| CONC.             | Concrete                                | INT.           | Interior                    | SHT.         | Sheet                               |
| CONN.             | Connection                              |                | meno                        | SIM.         | Similar                             |
| CONSTR.           |   | JAN.           | Janitor                     | S.N.D.       | Sanitary Napkin Dispenser           |
|                   |   | л.             |                             | S.N.R.       | Sanitary Napkin Receptacle          |
| CONT.             | Continuous                              | <b>31.</b>     | Joint                       | SPEC.        | Specification                       |
| CORR.             | Corridor                                | V.T            | Maria I                     | SQ.          | Square                              |
| CTSK.             | Countersunk                             | KIT.           | Kitchen                     | SST.         | Stainiess Steel                     |
| CNTR.             | Counter                                 |                |                             | S.SK.        | Service Sink                        |
| CTR.              | Center                                  |                |                             | STA.         | Station                             |
| CMU               | Concrete Masonry Unit                   | LAB.           | Laboratory                  | STD.         | Standard                            |
| OBL.              | Double                                  | LAM.           | Laminate                    | STL.         | Steel                               |
| DEPT.             | Department                              | LAV.           | Lavatory                    | STOR.        |                                     |
| D.F.              | Drinking Fountain                       | LKR.           | Locker                      |              | Storage                             |
| DET.              | Detail                                  | LT.            | Light                       | STRL.        | Structural                          |
| DIA.              | Diameter                                |                |                             | SUSP.        | Suspended                           |
| DIM.              | Dimension                               |                |                             | SYM.         | Symmetrical                         |
| DISP.             | Dispenser                               | MAT'L.         | Material                    | T.O.S.       | Top of Slab                         |
| DN.               | Down                                    | MAX.           | Maximum<br>Madiciae C. Niew | TRU.         | Tread                               |
| D.O.              | Door Opening                            | M.C.           | Medicine Cabinet            | T.B.         | Towel Bar                           |
| DR.               | Door                                    | MECH.          | Mechanical                  | T.C.         | Top of Curb                         |
| DWR.              | Drawer                                  | MEMB.          | Membrane                    | TEL.         | Telephone                           |
| DS.               | Downspout                               |                |                             | TER.         | Terrazzo                            |
| D.S.P.            | Dry Standpipe                           | MFR.           | Manufacturer                |              |                                     |
| DWG.              | Drawing                                 | MH.            | Manhole                     | T.&G.        | Tongue and Groove                   |
| - · · · · · ·     |   | MIN.           | Minimum                     | THK.         | Thick                               |
| -                 | F                                       | MIR.           | Mirror                      | T.F.         | Top of Pavement                     |
| E.                | East                                    | MISC.          | Miscellaneous               | T.P.D.       | Toilet Faper Dispenser              |
| EA.               | Each                                    | M.O.           | Masonry Opening             | T.Y.         | Television                          |
| E.J.              | Expansion Joint                         | MTD.           | Mounted                     | T.W.         | Top of Wall                         |
| EL.               | Elevation                               | MTL.           | Metal                       | TYP.         | Typical                             |
| ELEC.             | Electrical                              | MUL.           | Mullion                     | T.H          | Threshold                           |
| ELEV.             | Elevator                                | <b>A1</b>      | No. 11                      | UNF.         | Unfinished                          |
| EMER.             | Emergency                               | N.             | North                       | U.O.N.       | Unless Otherwise Noted (or: U.N.O.) |
| ENCL.             | Enclosure                               | N.I.C.         | Not In Contract             | UR.          | Urinal                              |
| E.P.              | Electrical Panelboard                   | NO. or #       | Number                      | J11.         | Çi iliu                             |
| EQ.               | Equal                                   | NOM.           | Nominal                     | VERT.        | Vertical                            |
| EQPT.             | Equipment                               | N.T.S.         | Not To Scale                | VEST.        | Vestibule                           |
| E.W.C.            | Electric Water Cooler                   |                | ,                           | V.I.F.       | Verify in Field                     |
| E.W.C.<br>EXST    |   | 0.4            | Overall                     | W.           | West                                |
|                   | Existing                                | 0.A.           | Overall                     | W/           | With                                |
| EXPO.             | Exposed                                 | OBS.           | Ooscure                     |              | •                                   |
| EXP.              | Expansion                               | U.C.           | On Center                   | W.C.         | Water Closet                        |
| EXT.              | Exterior                                | 0.D.           | Outside Diameter (Dim.)     | WD.          | Wood                                |
|                   |   | 0.F.C.1.       | Owner Furnished, Contractor | W/0          | Without                             |
| .A.               | Fire Alarm                              | OFF.           | Installed<br>Office         | WP.          | Waterproof                          |
| F.B.              | Flat Bar                                | OPPG.          | Opening                     | WSCT.        | Wainscot                            |
| F.D.              | Floor Drain                             |                |                             | WT.          | Weight                              |
| FDN.              | Foundation                              | OPP.           | Opposite                    |              |                                     |
|                   |   | PRCST          | Pre-cast                    |              |                                     |

\_ \_ \_ \_ EXISTING CONSTRUCTION

TO BE REMOVED



PRCST. Pre-cast

### DRAWING INDEX

A0.1 ABBREVIATIONS, SYMBOLS, DRAWING INDEX

A0.2 BAGGAGE AND TICKET LEVEL CONSTRUCTION PHASING PLANS

(NOTE: A0.2 RE-ISSUED 9-8-88 ADDN. #4 ATTACHMENT #7)

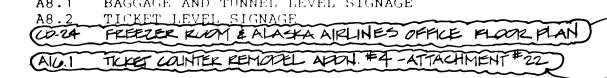
- C1.1 TRAFFIC CONTROL PLAN PATTERN A
- C1.2 TRAFFIC CONTROL PLAN
- PATTERN B C1.3 TRAFFIC CONTROL PLAN
- PATTERN C C1.4 TRAFFIC CONTROL PLAN
- PATTERN D C1.5 INNER RAMP RECONSTRUCTION
- PLAN AND DETAILS C1.6 SIGNING PLAN

#### LANDSCAPE

OUTER PASSENGER PICKUP ISLAND PLAN LANDSCAPE CONSTRUCTION AND PLANTING DETAILS

#### **ARCHITECTURAL**

- A1.2 BAGGAGE LEVEL DEMOLITION PLAN WEST A1.3 BAGGAGE LEVEL DEMOLITION PLAN EAST
- A1.4 TICKET LEVEL DEMOLITION PLAN WEST A1.5 TICKET LEVEL DEMOLITION PLAN EAST
- A2.1 TUNNEL LEVEL FLOOR FLAN A2.2 BAGGAGE LEVEL FLOOR PLAN WEST
- A2.3 BAGGAGE LEVEL EAST FLOOR PLAN, VESTIBULE PLAN AND DETAILS A2.4 TICKET LEVEL FLOOR PLAN WEST
- A2.5 TICKET LEVEL FLOOR PLAN EAST A2.6 ROOF PLAN
- A3.1 ELEVATIONS AND SECTIONS
- A3.1A EXTERIOR ELEVATIONS AND SECTIONS
- A3.2 PARTIAL BUILDING/TUNNEL SECTION AND STAIR SECTION A3.3 TUNNEL AND ESCALATOR SECTIONS
- A3.4 WALL SECTIONS AND DETAILS A3.5 SECTIONS AND DETAILS
- A3.6 TUNNEL/ESCALATOR SECTION AND DETAILS
- A3.7 TUNNEL SECTION AND DETAILS A3.8 SECTIONS AND DETAILS
- A6.1 TUNNEL LEVEL REFLECTED CEILING PLAN
- A6.2 BAGGAGE LEVEL REFLECTED CEILING PLAN WEST A6.3 BAG LEVEL REFLECTED CEILING PLAN EAST
- A6.4 TICKET LEVEL REFLECTED CEILING PLANS
- A8.1 BAGGAGE AND TUNNEL LEVEL SIGNAGE



- ID1.1 BAGGAGE LEVEL FLOOR FINISH PLAN ID1.2 TICKET LEVEL - FLOOR FINISH PLAN
- ID1.3 FLOOR FINISH PLAN AND CEILING PLAN W/NEON LIGHTING -
- ID2.1 ROOM FINISH SCHEDULE
- ID3.1 INTERIOR FINISH ELEVATIONS, DETAILS ID3.2 INTERIOR FINISH ELEVATIONS, DETAILS

#### STRUCTURAL

- S1.1 EXISTING TUNNEL ROOF AND VESTIBULE PIT DEMOLITION PLAN S1.2 EXISTING TUNNEL DEMOLITION PLAN NEW SOLDIER PILE LAYOUT
- S1.3 NEW TUNNEL FOUNDATION/SLAB PLAN
- S1.4 NEW TUNNEL ROOF PLAN TUNNEL - BAGGAGE LEVEL FLOOR PLAN AND PLANTER PLAN
- S1.5 TUNNEL TICKET LEVEL FRAMING PLAN
- S2.1 CURTAIN WALL FOUNDATION PLAN WEST CURTAIN WALL FOUNDATION PLAN - EAST
- TICKET LEVEL CURTAIN WALL PLAN WEST S2.4 TICKET LEVEL CURTAIN WALL PLAN - EAST
- S2.5 CURTAIN WALL ROOF FRAMING PLAN WEST S2.6 CURTAIN WALL ROOF FRAMING PLAN - EAST

  (52.7 TICKET LEVEL ACCESS RAMP EEPARS & TRAFFIC FLOW PATTERNS (ADDN #3 - ATTACHMENT #17)
- S3.2 LONGITUDINAL TUNNEL SECTIONS
- S5.1 CONCRETE DETAILS
- CONCRETE DETAILS CONCRETE DETAILS S5.4 CONCRETE DETAILS
- S5.5 CONCRETE DETAILS
- S5.6 CONCRETE DETAILS
- S7.1 STEEL DETAILS S7.2 STEEL DETAILS
- S10.1 STAIR DETAILS

## MECHANICAL

- MO.1 LEGEND, ABBREVIATIONS, NOTES AND SCHEDULES
- M1.1 BAGGAGE LEVEL DEMOLITION PLAN AND DETAILS M1.2 BAGGAGE LEVEL DEMOLITION PLAN M1.3 TICKET LEVEL DEMOLITION PLAN AND DETAILS
- M1.4 TICKET LEVEL DEMOLITION PLAN
- M2.1 BAGGAGE LEVEL RENOVATION PLAN AND DETAILS BAGGAGE LEVEL RENOVATION PLAN
- M2.3 TICKET LEVEL RENOVATION PLAN AND DETAILS M2.4 TICKET LEVEL RENOVATION PLAN
- TUNNEL LEVEL RENOVATION PLAN M2.6 BAGGAGE LEVEL AND TICKET LEVEL SPRINKLER COVERAGE PLANS
- M3.1 DETAILS

### **ELECTRICAL**

- E1 LEGEND, FIXTURE SCHEDULE, PANEL SCHEDULES BAGGAGE LEVEL DEMOLITION PLAN WEST
- BAGGAGE LEVEL DEMOLITION PLAN EAST TICKET LEVEL DEMOLITION PLAN WEST
- TICKET LEVEL DEMOLITION PLAN EAST
- TUNNEL LEVEL LIGHTING AND POWER PLANS
- BAGGAGE LEVEL POWER PLAN WEST
- BAGGAGE LEVEL LIGHTING AND POWER PLAN EAST
- TICKET LEVEL LIGHTING AND POWER PLAN WEST
- TICKET LEVEL LIGHTING AND POWER PLAN EAST BAGGAGE LEVEL EXTERIOR LIGHTING PLAN - WEST

0" 3" 6" 9" | 1/2 2' 3' 3/4" | 1/2" 2' 3' 4' 5 6 3/8" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/

BAGGAGE LEVEL EXTERIOR LIGHTING PLAN - EAST

# E14 ONE-LINES AND DETAILS

## **CODE ANALYSIS**

THIS PROJECT INCLUDES REMODEL OF THE EXTERIOR CUR-TAIN WALL AND VESTIBULES OF THE TICKET LOBBY AND BAGGAGE AREA BETWEEN GRIDS 2 AND 28. IT ALSO IN-CLUDES REMODEL OF AN EXISTING TUNNEL AND THE CON-NECTION OF THAT TUNNEL TO THE BAGGAGE LEVEL VIA A NEW STAIR/ESCALATOR, ELEVATOR AND ELEVATOR LOBBY AT THE TUNNEL LEVEL.

THIS PROJECT ALSO INCLUDES EXTERIOR IMPROVEMENTS TO THE RAMPS AND PASSENGER PICK-UP AREA.

1985 UNIFORM BUILDING CODE + 1985 UNIFORM FIRE

CONSTRUCTION TYPE TYPE II 1 HR. (WHICH MATCHES EXISTING CONSTRUCTION)

|  | OCCUPANCY | SF/PERSON |
|--|-----------|-----------|
| TICKET LOBBY                             | B-2       | 7         |
| BAGGAGE PICK-UP                          | B-2       | 7         |
| AIRLINE TICKET OFFICES AND OTHER OFFICES | B-2       | 100       |
| CONCOURSE AND RETAIL                     | B-2       | 100       |
| BAGGAGE AND MAKE-UP                      | B-2       | 300       |
| GATE LOBBIES                             | A2.1      | 15        |
| RESTAURANT                               | A2.1      | POSTED    |
| KITCHEN                                  | A2.1      | 30        |

THE RENOVATIONS TO THE TICKET LOBBY INCLUDE ONLY A CURTAIN WALL PUSH-OUT AND NEW VESTIBULES. THE SQUARE FOOTAGE ADDED TO THIS LEVEL IS 780 S.F.

780 S.F. DIVIDED BY 7 S.F./PERSON = 111 OCCU. DIVIDED BY 50 = 2 L.F. OF EXIT REQUIRED ADDED TO THE PROJECT.

THE EXISTING VESTIBULES HAD 84 L.F. OF EXIT (14 DOORS AT 6'-0") AND THE NEW VESTIBULES HAVE 90 L.F. OF EXIT WIDTH TAKING INTO ACCOUNT THAT 1/2 OF THE WIDTH OF EACH BREAK AWAY PANEL MAY BE USED AS EXIT WIDTH.

90 L.F. = 5 DOORS AT 6'-0" = 30'-0" PLUS 5 DOORS AT 12'-0" = 60'-0"

THIS PROJECT REQUIRES 2 MORE L.F. OF REQUIRED EXIT WIDTH 84 + 2 = 86 L.F. THE NEW VESTIBULES PROVIDE 90 L.F. OF EXIT WIDTH.

THE BAGGAGE LEVEL RENOVATIONS INCLUDE ADDITIONAL SQUARE FOOTAGE AND THE TOTAL SQUARE FOOTAGE IS AS FCLLOWS:

BAGGAGE PICK-UP: 20,360 S.F. DIVIDED BY 7 S.F./PERSON = 2,908.57 OCCU. DIVIDED BY 50 = 58 L.F. OF EXIT REQUIRED.

1,747.5 S.F. DIVIDED BY 100 S.F./PERSON = 17 OCCU. DIVIDED BY 50 = .349 L.F. OF EXIT REQUIRED

TOTAL EXIT REQUIRED IS 58 L.F.

PROVIDED EXITS THIS PROJECT:

780 S.F. = 4,150 S.F.)

6 DOORS AT 6'-0" = 36 L.F., PLUS 28' OF EXIT BE-TWEEN THE EAST AND WEST END OF THE BAGGAGE PICKUP AREA FOR A TOTAL OF 64 L.F. (EAST END = 12'-0", WEST END = 16'-0")

THIS PROJECT REQUIRES 58 L.F. OF EXIT AND 64 L.F. OF EXIT IS PROVIDED.

NOTE: THE ESCALATORS/STAIR FROM THE BAGGAGE LEVEL TO THE TUNNEL ARE FOR CONVENIENCE AND ARE NOT CON-SIDERED AN EXIT.

NOTE: THIS PROJECT WILL NOW BE ENTIRELY SPRINKLERED.

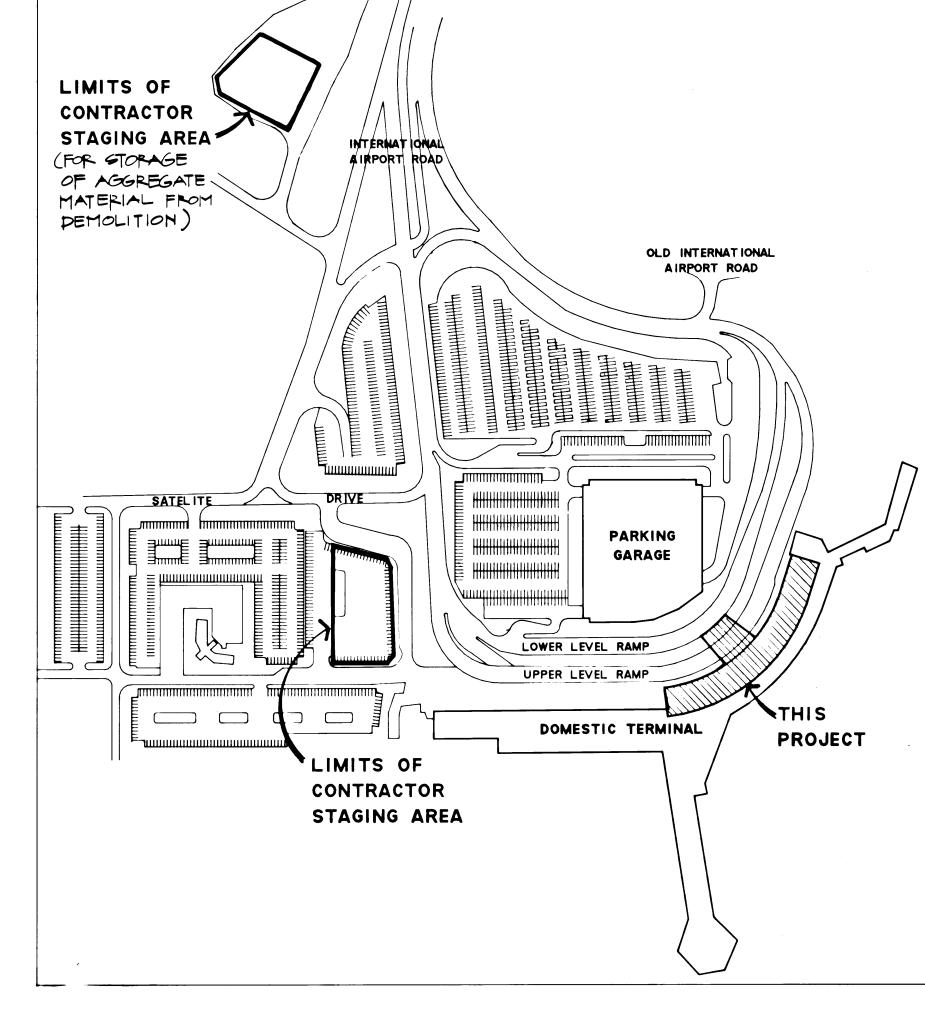
NOTE: THIS PROJECT MEETS ALL REQIREMENTS FOR THE HANDICAPPED PER SECTION 21.45.080(9), TITLE 21, ANCHORAGE MUNICIPAL CODE.

TOTAL S.F. OF EXISTING BUILDING = 417,500 S.F.

TOTAL ADDITIONAL AREA THIS PROJECT = 4,150 S.F. =

LEVEL ADDITION = 3,110 S.F., TICKET LEVEL ADDITION

.01% OF TOTAL BUILDING SQUARE FOOTAGE. (ELEVATOR LOBBY AND MECH. ROOM = 960 S.F., BAG



**AIRPORT VICINITY MAP** 

HUT TO SCALE

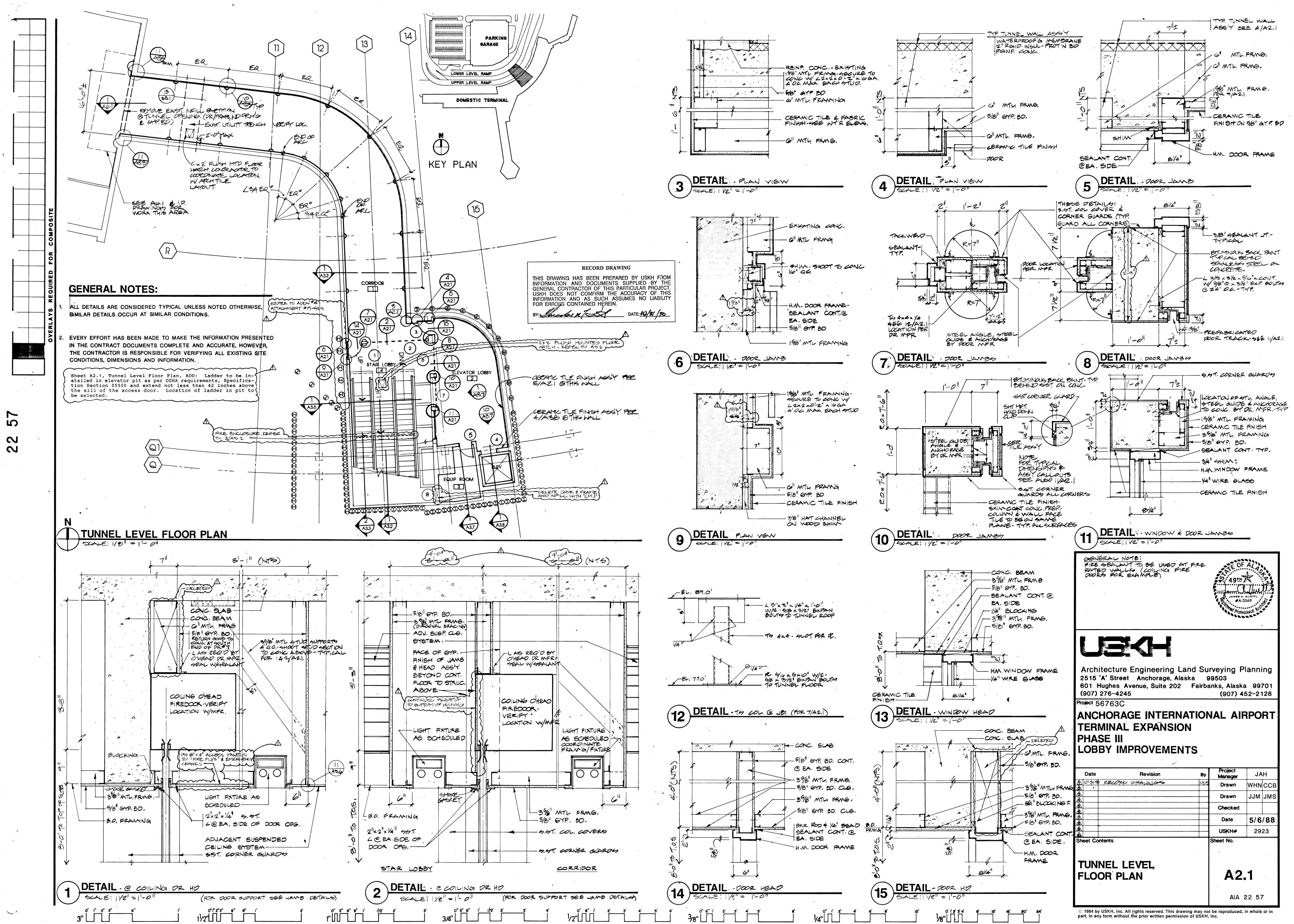


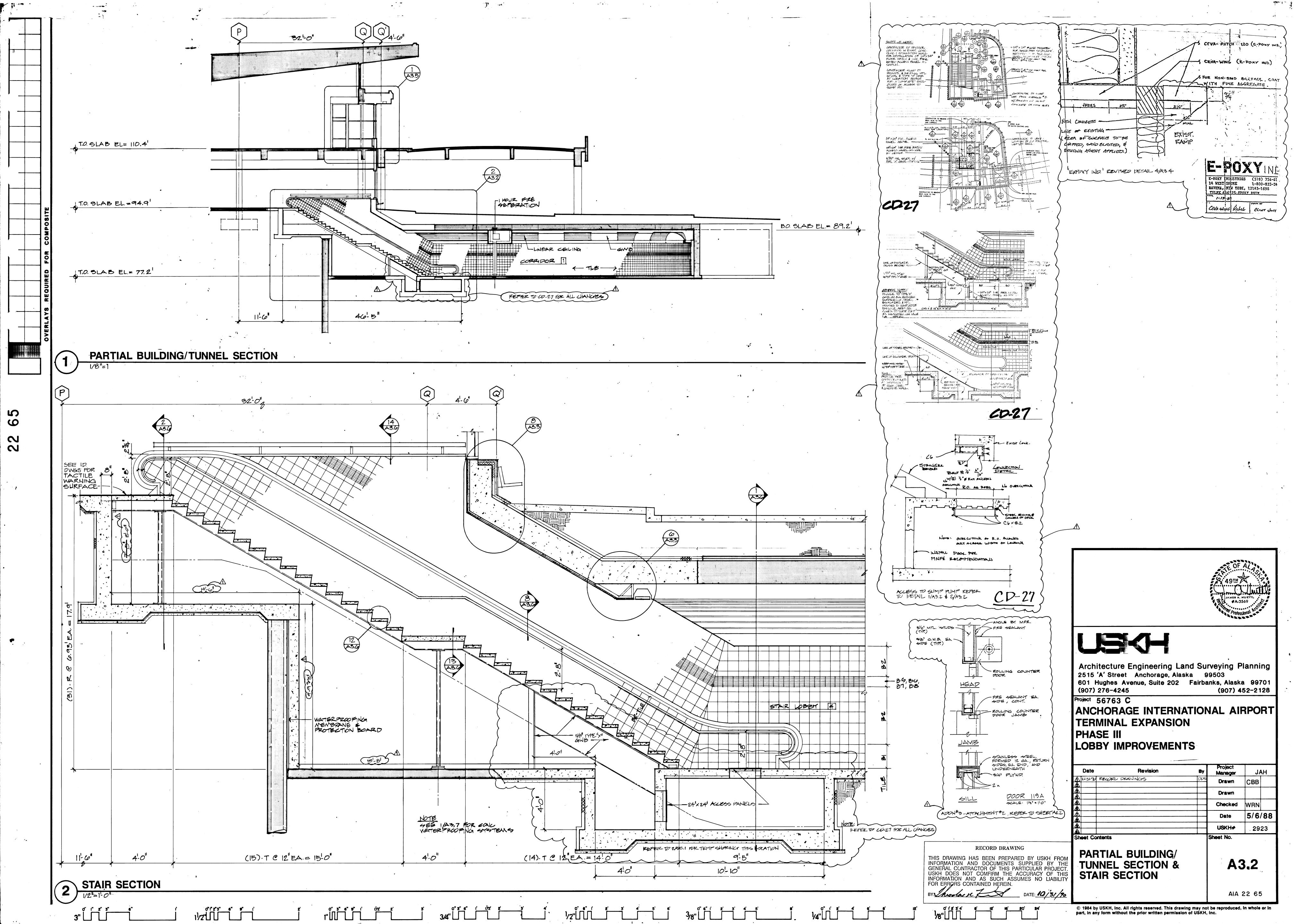
INFORMATION AND DOCUMENTS SUPPLIED BY THE GENERAL CONTRACTOR OF THIS PARTICULAR PROJECT. USKH DOES NOT COMFIRM THE ACCURACY OF THIS INFORMATION AND AS SUCH ASSUMES NO LIABILITY FOR ERRORS CONTAINED HEREIN. DATE: 10/31/90

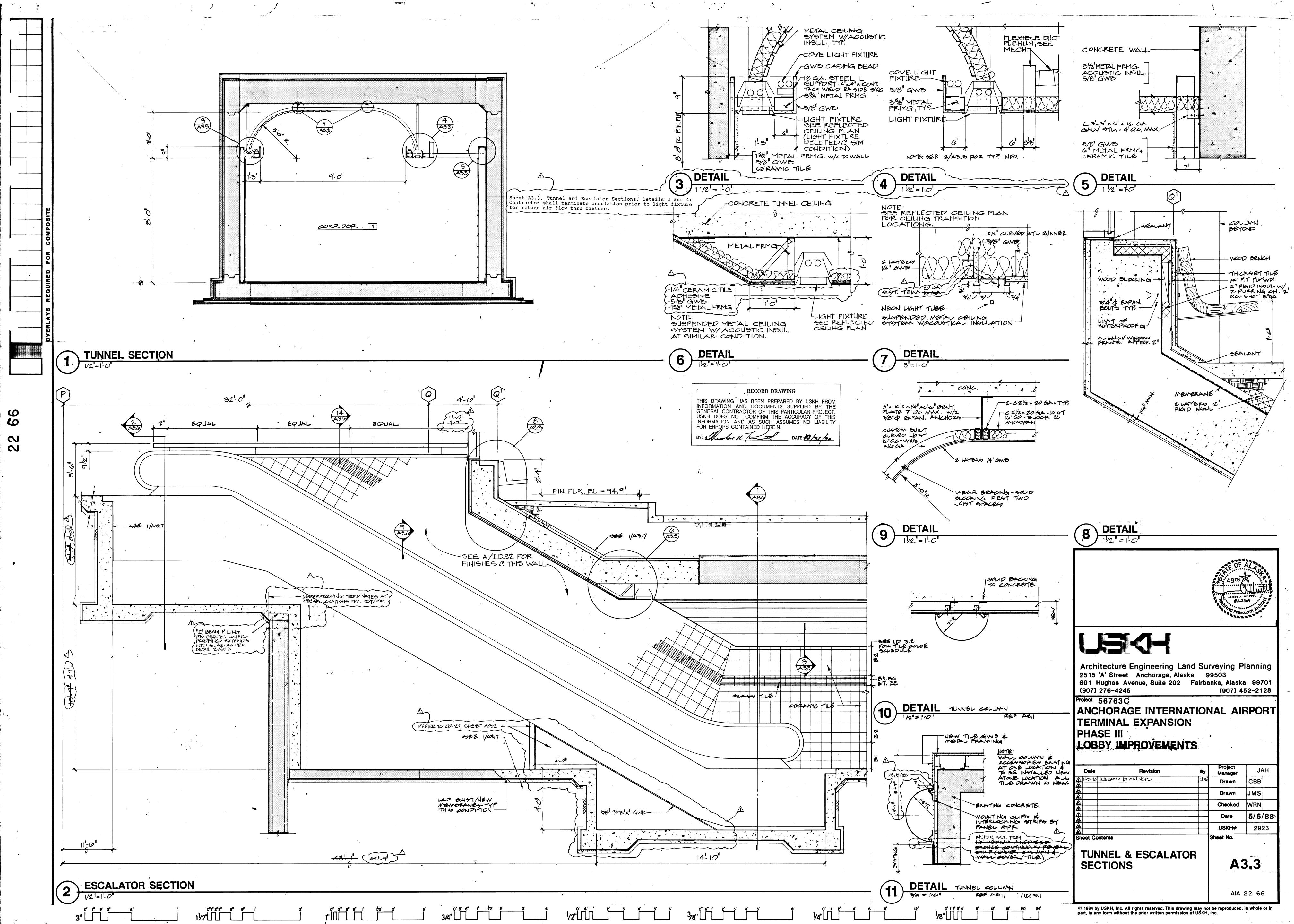
RECORD DRAWING

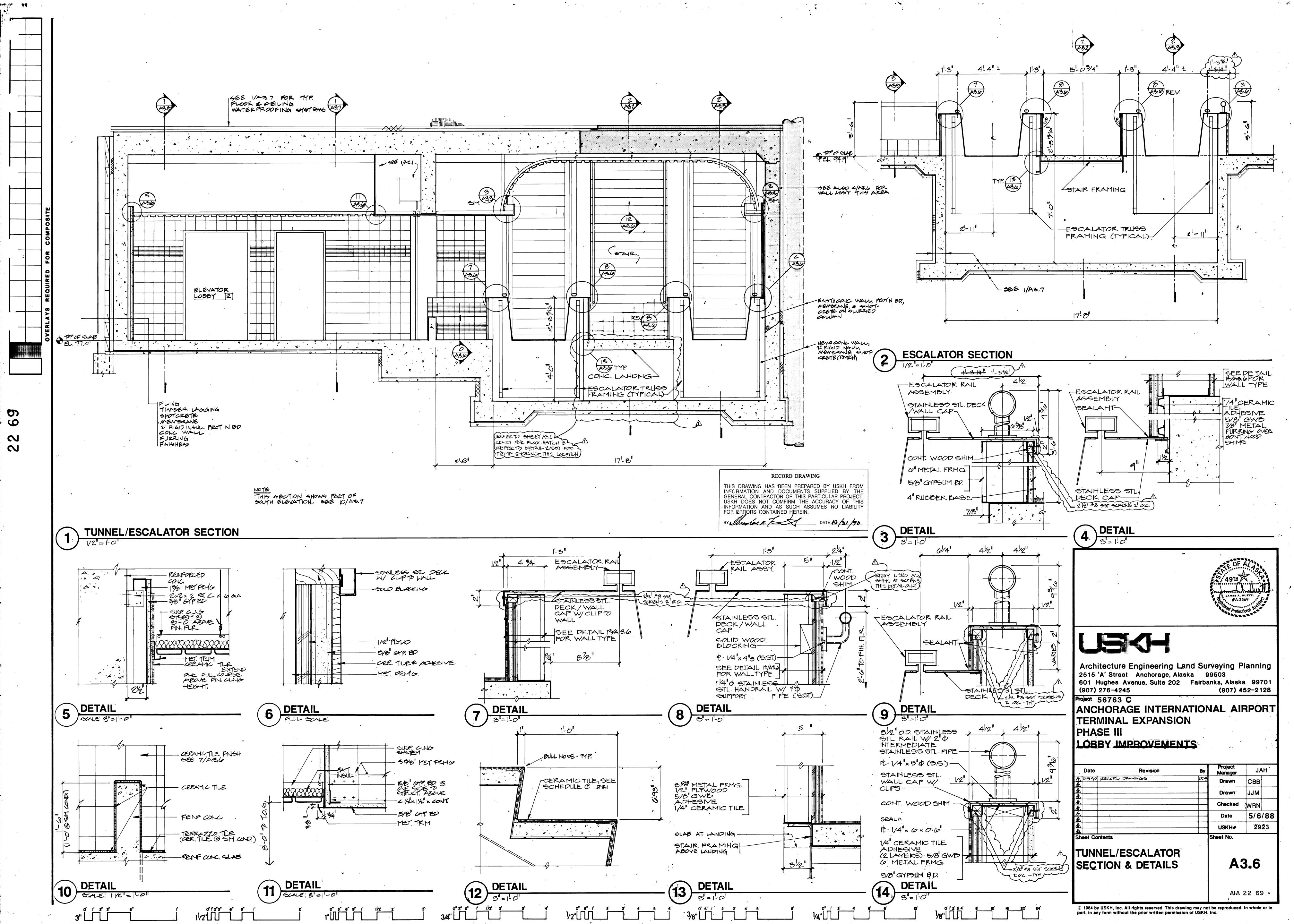
AIA 22 43

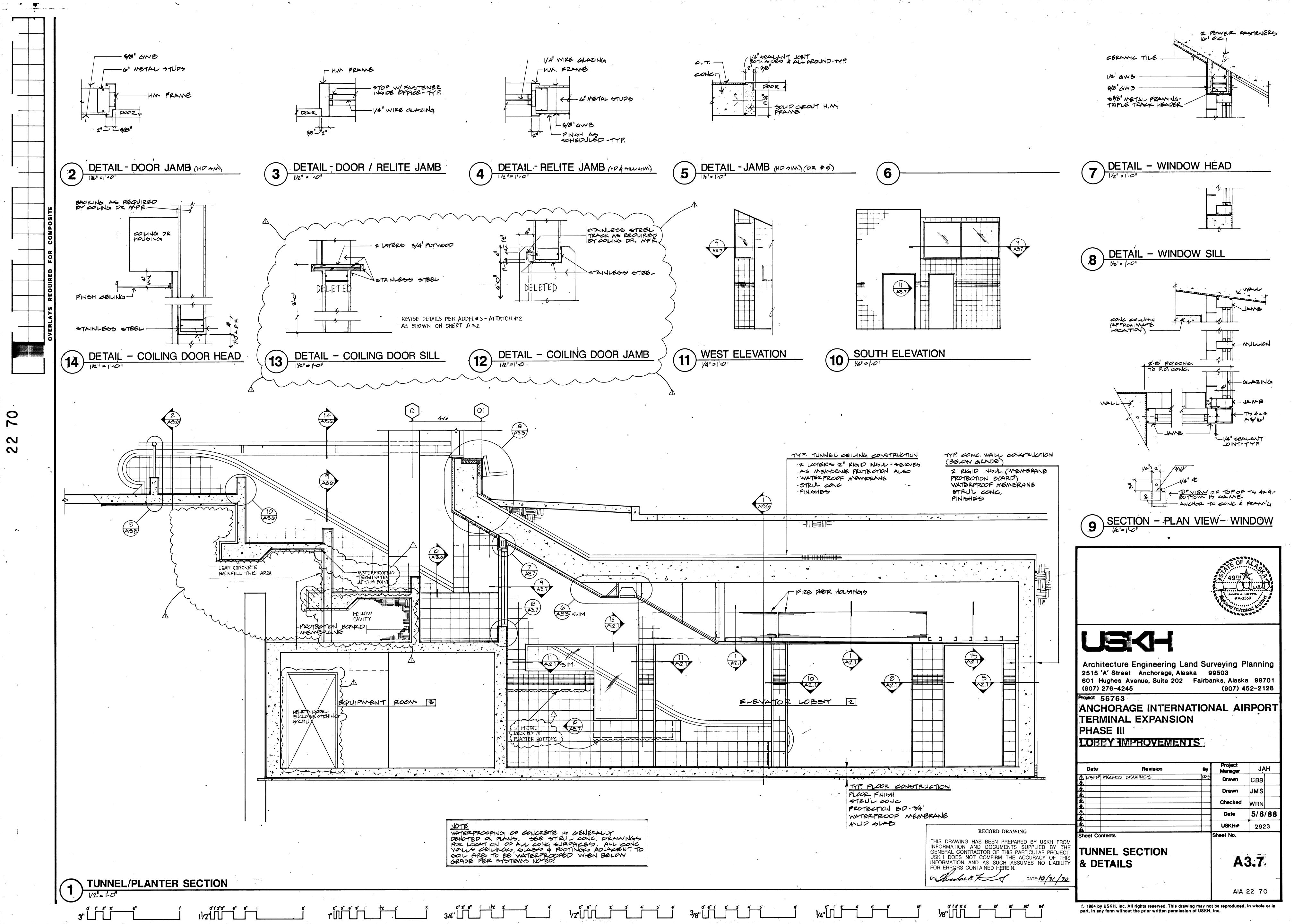
DRAWING INDEX

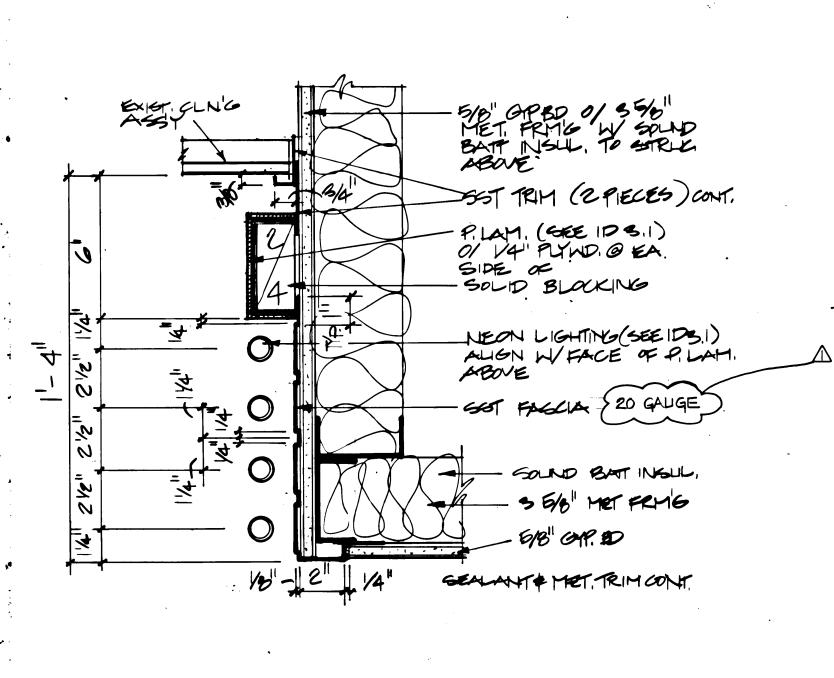












MET CEILING TYP

MET CEILING TYP

MAKCH EXIST OFF TRANS, LOBSY

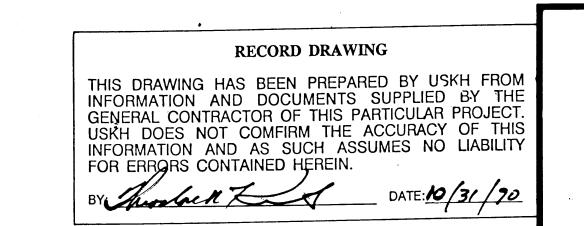
(SEE 1/AL-1)

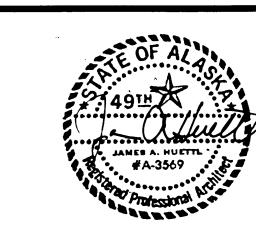
- GINGO 76" ABOVE FIN. FLR

AROVE PLANTER ABOVE ELEVI
EQUIT RY ALCO
PENDANT MID
LIGHT FIXTURE

ABOVE PLANTER!

DETAIL SCALE: 3 = 1-011





# - SIEP LINEAR SHT MET.CLNG MATCH EXIST @ GRD TRANS LOBBY

Architecture Engineering Land Surveying Planning 2515 'A' Street Anchorage, Alaska ' 99503 601 Hughes Avenue, Suite 202 Fairbanks, Alaska 99701 (907) 276-4245 (907) 452-2128

Project 56763C

ANCHORAGE INTERNATIONAL AIRPORT TERMINAL EXPANSION PHASE III LOBBY IMPROVEMENTS.

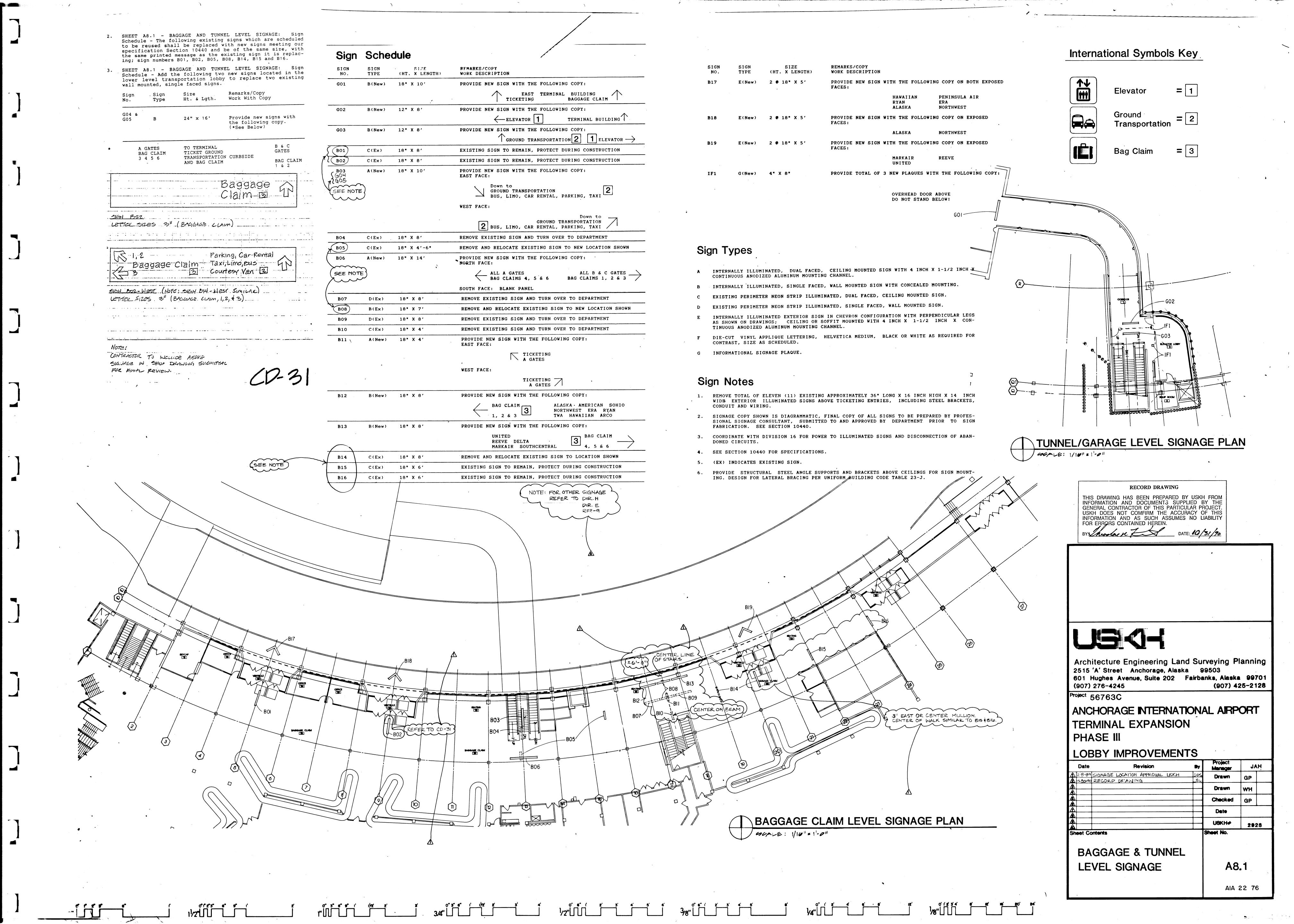
| Date  | Revision        | Ву  | Project<br>Manager | JAH     |
|-------|-----------------|-----|--------------------|---------|
| 2190  | RECORD DRAWINGS | JEL | Drawn              | WAN JJM |
|       |                 |     | Drawn              | СВВ     |
|       |                 |     | Checked            |         |
|       |                 |     | Date               | 5/6/88  |
|       |                 |     | USKH#              | 2923    |
| et Co | ontents         |     | Sheet No.          |         |
| U     | NNEL LEVEL      |     |                    |         |

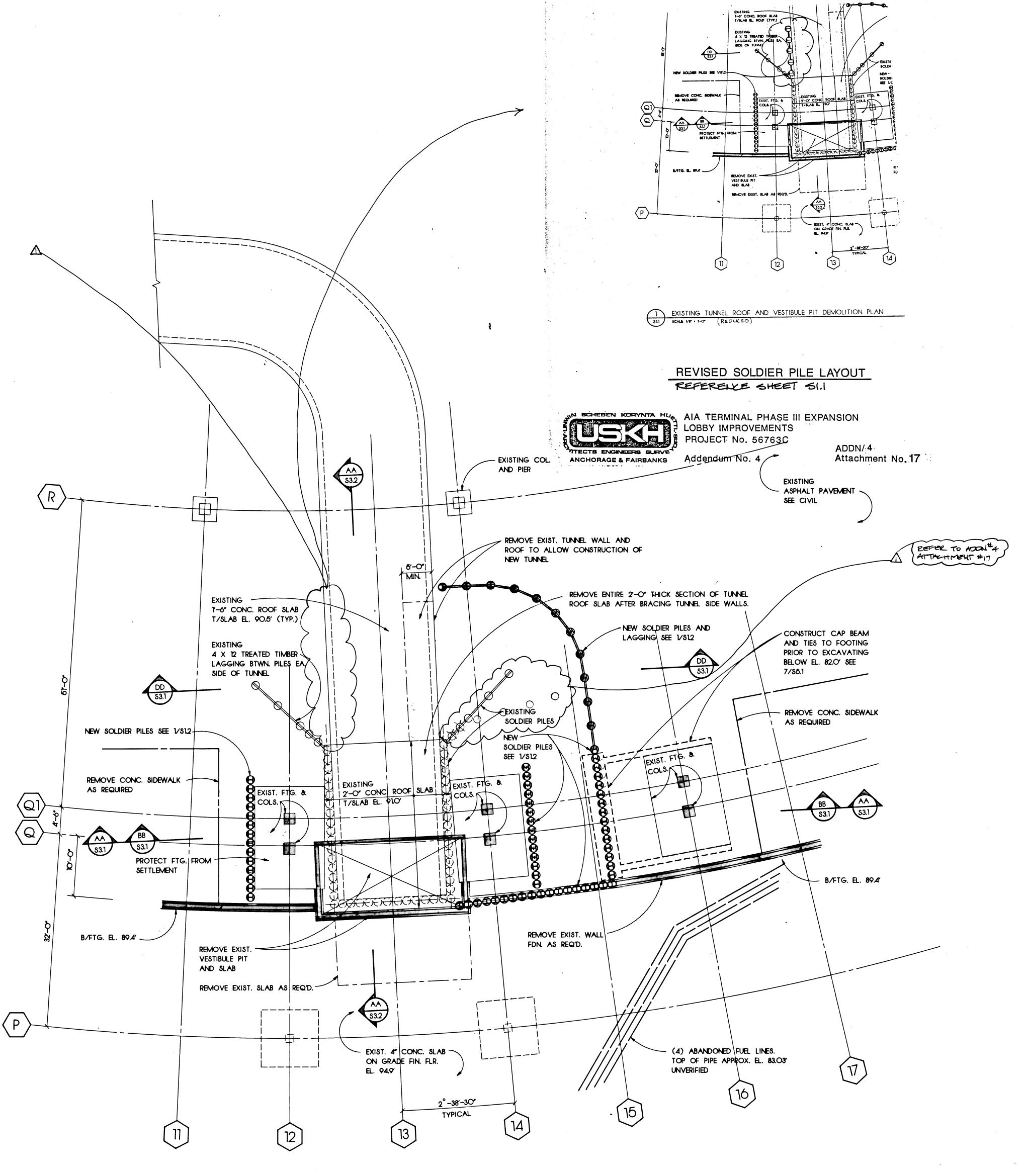
REFLECTED CEILING PLAN

A6.1 AIA 22 72

© 1984 by USKH, Inc. All rights reserved. This drawing may not be reproduced, in whole or in part, in any form without the prior written permission of USKH, Inc.

7 453 TYP EXIST, CEILING ASSIY I NEW SIST COL COMER TO MARCH EXIST @ OPP SIDE OF TUNNEL FACE OF STRUCT CONK
SETOND EXIST CABINETS + SECTION AT TUNNEL ENTRY





1 EXISTING TUNNEL ROOF AND VESTIBULE PIT DEMOLITION PLAN

SCALE: 1/8" = Y-O"

GENERAL STRUCTURAL NOTES

DESIGN CRITERIA:

Uniform Building Code - 1985 Edition including amendments specified by the Municipality of Anchorage.

LIVE LOADS -

Roof - 40 psf snow load plus drifting as required by 1985 UBC.

Floor - 100 psf. Stairs - 100 psf.

Traffic - HS-20.
Wind - 1985 UBC: 100 mph/ Exposure B.

Wind - 1985 UBC: 100 mph/ Exposure B. Seismic - Curtain wall and vestibule design -

Z = 1.00, I = 1.0 K = 1.00, CP = 0.30

REINFORCED CONCRETE - Normal weight concrete mixes and their general uses are as follows:

CLASS Fc GENERAL USE

I 3000 ps: Foundations, slabs, walls, beams.

II 4000 ps: Columns, all tunnel elements.

III 2500 ps: Grouting openings, mass fill.

Concrete used for the new beams and slabs at elevation 110.4 and in the new columns at grid line 14 shall incorporate Type III cement and a High-range Water-reducing (HRWR) plasticizer. Slump shall be measured at the site, prior to addition of the HRWR plasticizer, and shall not exceed 2 inches.

Provide 3/4 inch chamfer at all exposed corners of beams, columns and

Prior to placing new concrete against existing concrete the existing surface shall be cleaned using high pressure water and coated with an approved bonding compound.

CONCRETE REINFORCING - All reinforcing steel shall be ASTM A615, Grade 60. All welded wire fabric (WWF) shall be furnished in flat sheets and conform to ASTM A185.

SLABS ON GRADE - Reinforce all new concrete slabs on grade with 6 x 6/  $V2.9~\times~V2.9~$  WWF, UNO.

STRUCTURAL STEEL - All structural steel shall conform to ASTM A36, all steel tubing shall conform to ASTM A500, Grade B. All bolts for steel to steel connections shall be 7/8 inch diameter, ASTM A325.

METAL ROOF DECK - Metal roof decking utilized on the curtain wall and vestibule roofs shall be 3 inch deep type N x 22 guage, minimum I = .656 in 4 , S = .376 in 3 .

EXISTING CONDITIONS - Contractor shall verify the locations of all existing utilities and structural elements affecting the work. Notify the Architect in writing of any discrepancies between the existing conditions and that shown on the drawings which adversely affect the work.

FOUNDATIONS - Foundations for the new column footings and tunnel costruction shall be excavated to a depth of 12 inches below the bottom of the new footings. The existing subgrade shall be compacted to 95% compaction when tested in accordance with Alaska T-3 at the optimum water content. Two 6 inch lifts shall be placed and compacted to 95% to obtain the required bottom of footing elevation.

Foundations for new wall and pit footings shall be excavated to the bottom of footing elevation and the existing subgrade compacted to 95% compaction when tested in accordance with Alaska T-3 at the optimum water content.

Backfilling of the excavations shall be completed with material conforming to the requirements for State of Alaska, Subbase Grading Type B. Material shall be placed in 9 inch lifts and compacted to 95% maximum density.

Where new material must be added to raise the subgrade elevation, the existing subgrade material shall first be compacted to 95% maximum density. The material added shall conform to the requirements for State of Alaska, Subbase Grading Type B and have a maximum size 1-1/2 inch, be placed in 9 inch lifts and be compacted to 95%.

Where existing utilities or structural elements are removed, the grade shall be returned to level with Type B fill material placed in 9 inch lifts and compacted to 95%.

When excavating for new foundation elements Contractor shall protect existing footings to prevent undermining or loss of subgrade support. If subgrade material beneath existing footings is disturbed, the resulting void shall be filled with Class III concrete.

DEMOLITION - Contractor shall be responsible for the safety of the structure during demolition and construction.

Contractor shall develop a support system to stabilize the structure during demolition and construction which will prevent damage to the existing and new structural members. The support system shall be designed to comply with the following criteria:

The system supporting the structure at elevation 110.4 shall be capable of supporting the weight of the existing members and construction loads plus a live load of 100 psf.

Bearing stress of the support system on the floor slab at elevation 94.9 shall be limited to 3000 psf for total loads.

Contractor shall provide support to the existing tunnel walls capable of supporting the lateral loads shown on sheet S 1.2. Provide support to the tunnel lid capable of supporting the self weight of the existing sturcture plus anticipated construction loads.

Existing elements which are to be demolished and removed shall be securely supported during demolition so as to prevent any part of the element from collapsing.

Existing reinforcing bars which are scheduled to be connected to new reinforcement shall not be flame cut.

TYPE "B" SUB BASE: Z" - 100°/0

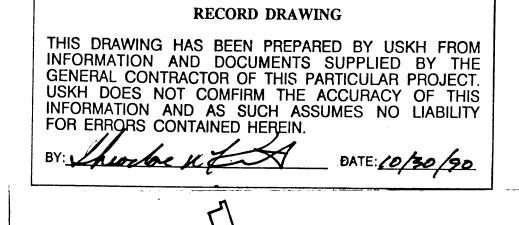
#4-30°/0-70%

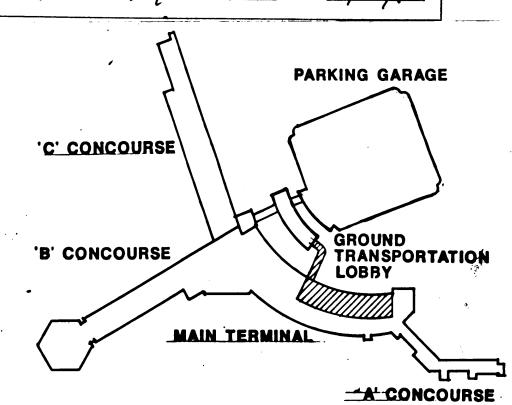
#200-3-10%(81) 0-6%(88)

ABBREVIATIONS

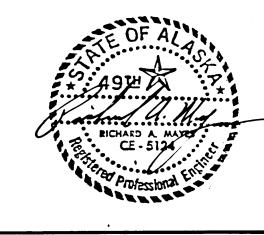
| Architectural                  | ARCH        |
|--------------------------------|-------------|
| At                             | •           |
| Bent                           | BNT         |
| Bottom of footing              | B/FTG       |
| Bottom of tunnel               | B/TUNNEL    |
| Centilever                     | CANT        |
| Clear                          | CLR         |
| Complete penetration           | C.P.        |
| Concrete                       | CONC        |
| Diameter                       | DIA         |
| Dowel                          | DVL         |
| Each face                      | E.F.        |
| Each way                       | E.V.        |
| Electrical                     | ELEC        |
| Elevation                      | EL.         |
| Existing                       | EXIST       |
| Hor i zonta l                  | HORZ        |
| Longitudinal Long Slotted Hole | LONG<br>LSH |
| Machine Bolt                   | M.B.        |
| Maximum                        | MAX         |
| Mechan I ca l                  | MECH        |
| On center                      | O.C.        |
| Reinforcement                  | REINF       |
| Required                       | REQD        |
| Similar                        | SIM         |
| Straight                       | STR         |
| Top and bottom                 | T&B         |
| Top of footing                 | T/FTG       |
| Top of slab                    | T/SLAB      |
| Top of steel                   | T/STL       |
| Transverse                     | TRANS       |
| Typical                        | TYP         |
| Unless Noted Otherwise         | UNO         |
| Vertical                       | VERT        |
| Welded Wire Febric             | VVF         |

See also the abbreviations listed on the Architectural Drawings.









**S1.1** 

AIA 22 88

Architecture Engineering Land Surveying Planning 2515 'A' Street Anchorage, Alaska 99503 601 Hughes Avenue, Suite 202 Fairbanks, Alaska 99701 (907) 276-4245 (907) 452-2128

Project 56763 C

ANCHORAGE INTERNATIONAL AIRPORT

TERMINAL EXPANSION PHASE III .

LOBBY IMPROVEMENTS

| Date         | Revision        | Ву  | Project<br>Manager | RA       | AM  |
|--------------|-----------------|-----|--------------------|----------|-----|
| 10.30.90     | RECORD DRAWINGS | JEL | Drawn              | GPB      |     |
| <b>A</b>     |                 |     |                    | GFB      |     |
| <b>A</b>     |                 |     | Drawn              |          |     |
| <b>A</b>     |                 |     |                    |          |     |
| <u>&amp;</u> |                 |     | Checked            | BEH      |     |
| <b>A</b>     |                 |     |                    | DEN      |     |
| A            |                 |     | Date               | - , ,    | 100 |
| <b>Æ</b>     |                 |     |                    | 5/6      | /88 |
| <b>Æ</b>     |                 |     | USKH#              |          |     |
| <b>A</b>     |                 |     | - Cordina          | 292      | 23  |
| Sheet Co     | ontents         |     | Sheet No.          | <u> </u> |     |

**EXISTING TUNNEL ROOF**& VESTIBULE PIT
DEMOLITION PLAN

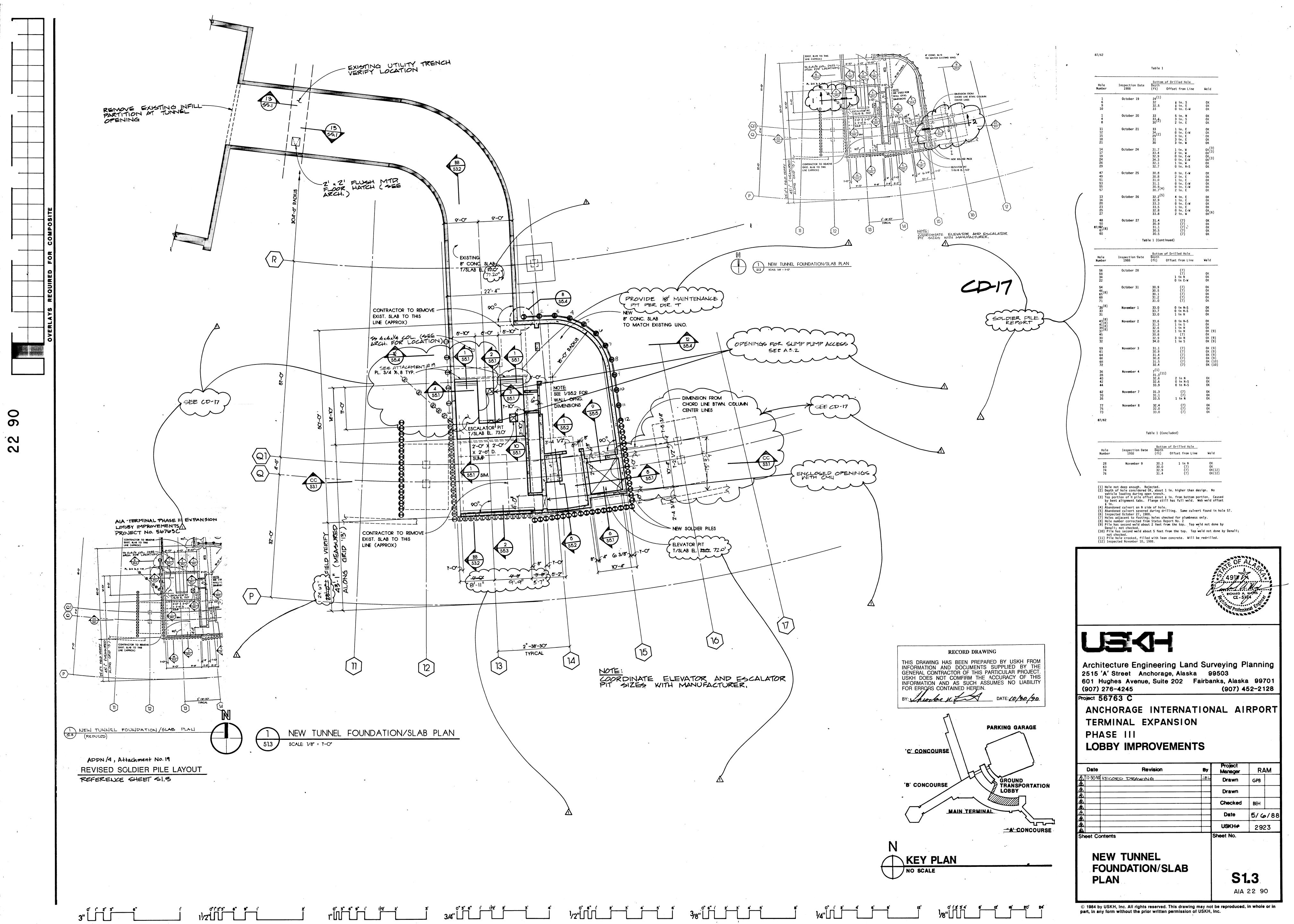
© 1984 by USKH, Inc. All rights reserved. This drawing may not be reproduced, in whole or in part, in any form without the prior written permission of USKH, Inc.

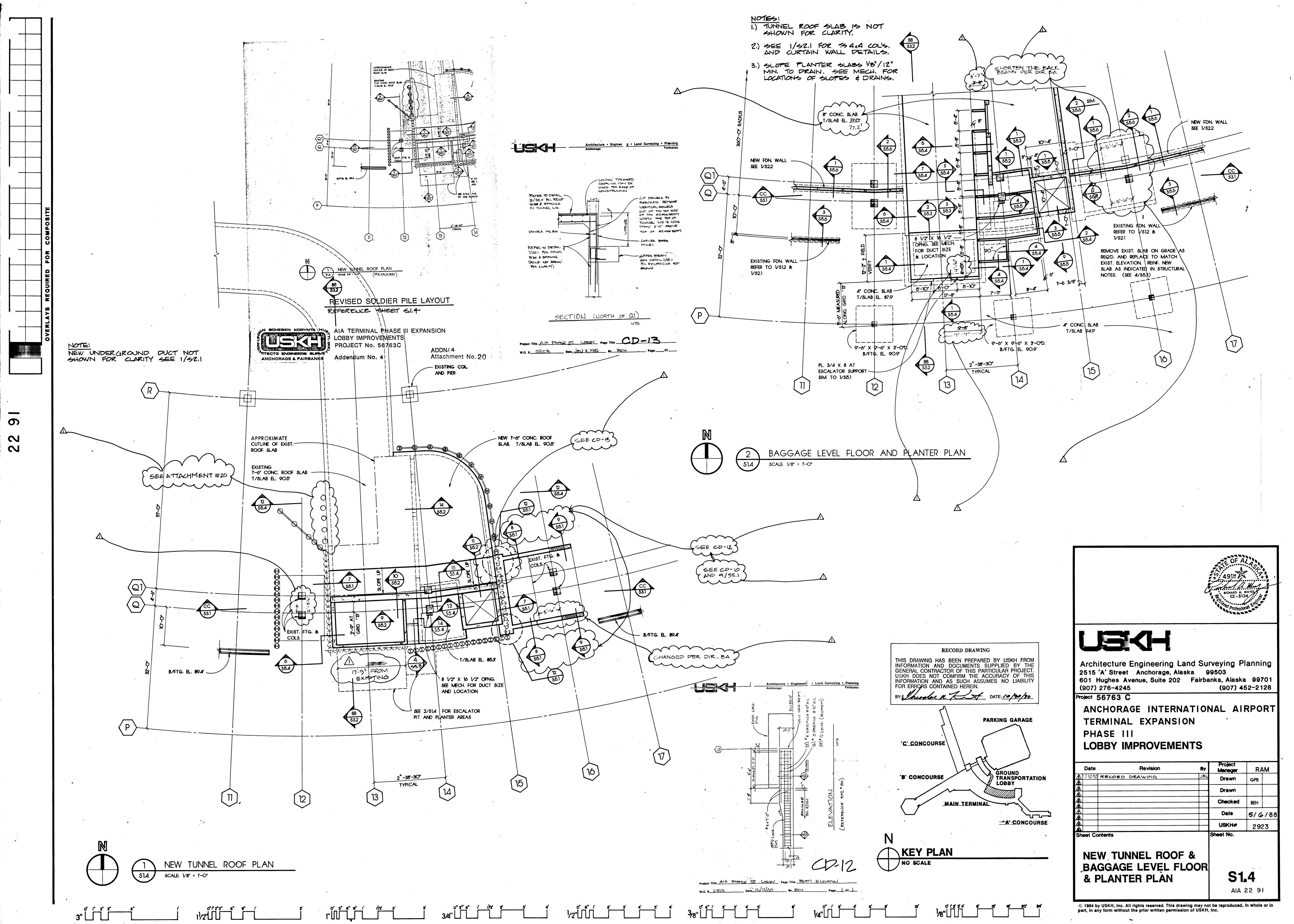
© 1984 by USKH, Inc. All rights reserved. This drawing may not be reproduced, in whole or in part, in any form without the prior written permission of USKH, Inc.

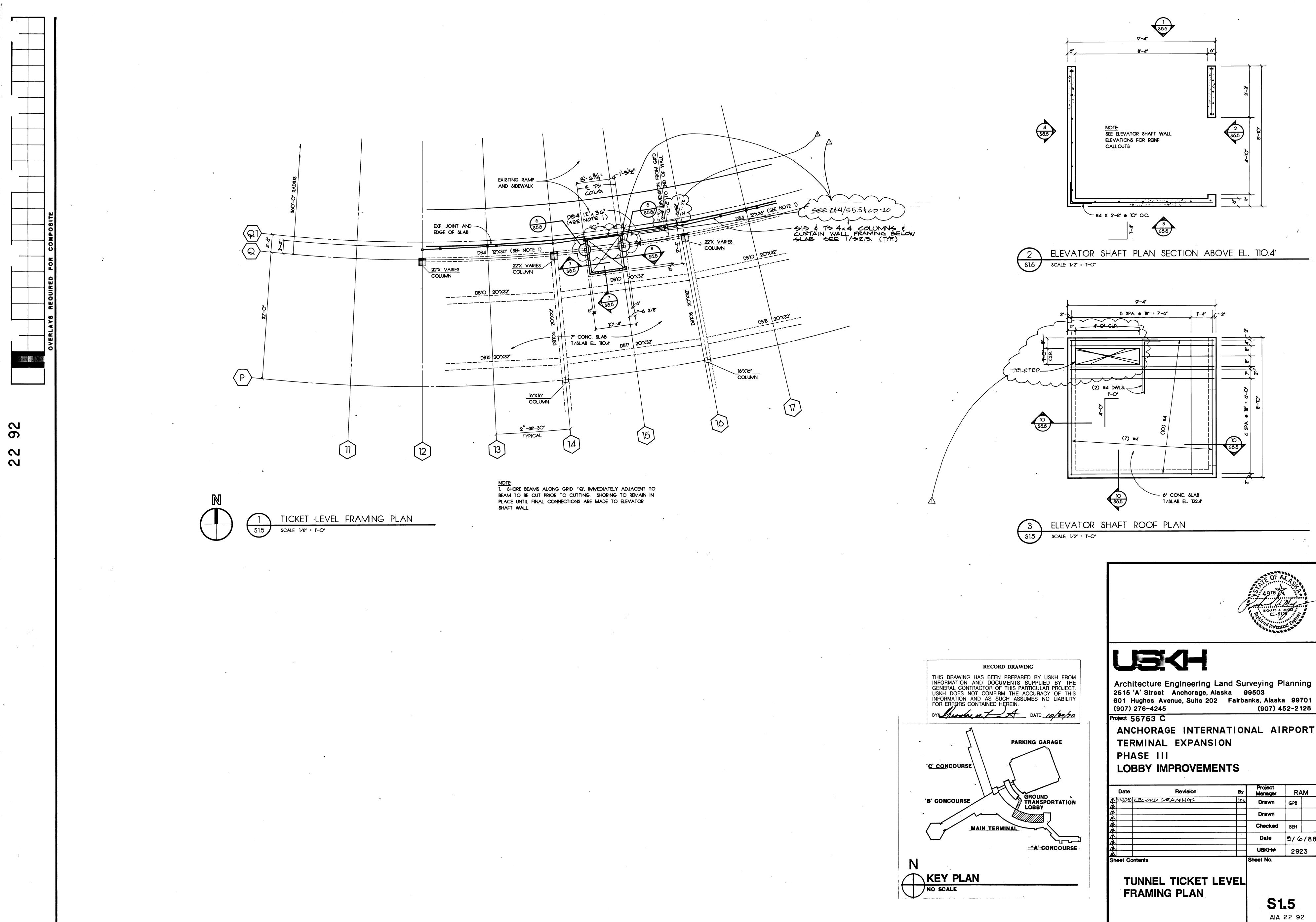
 $\infty$ 

N

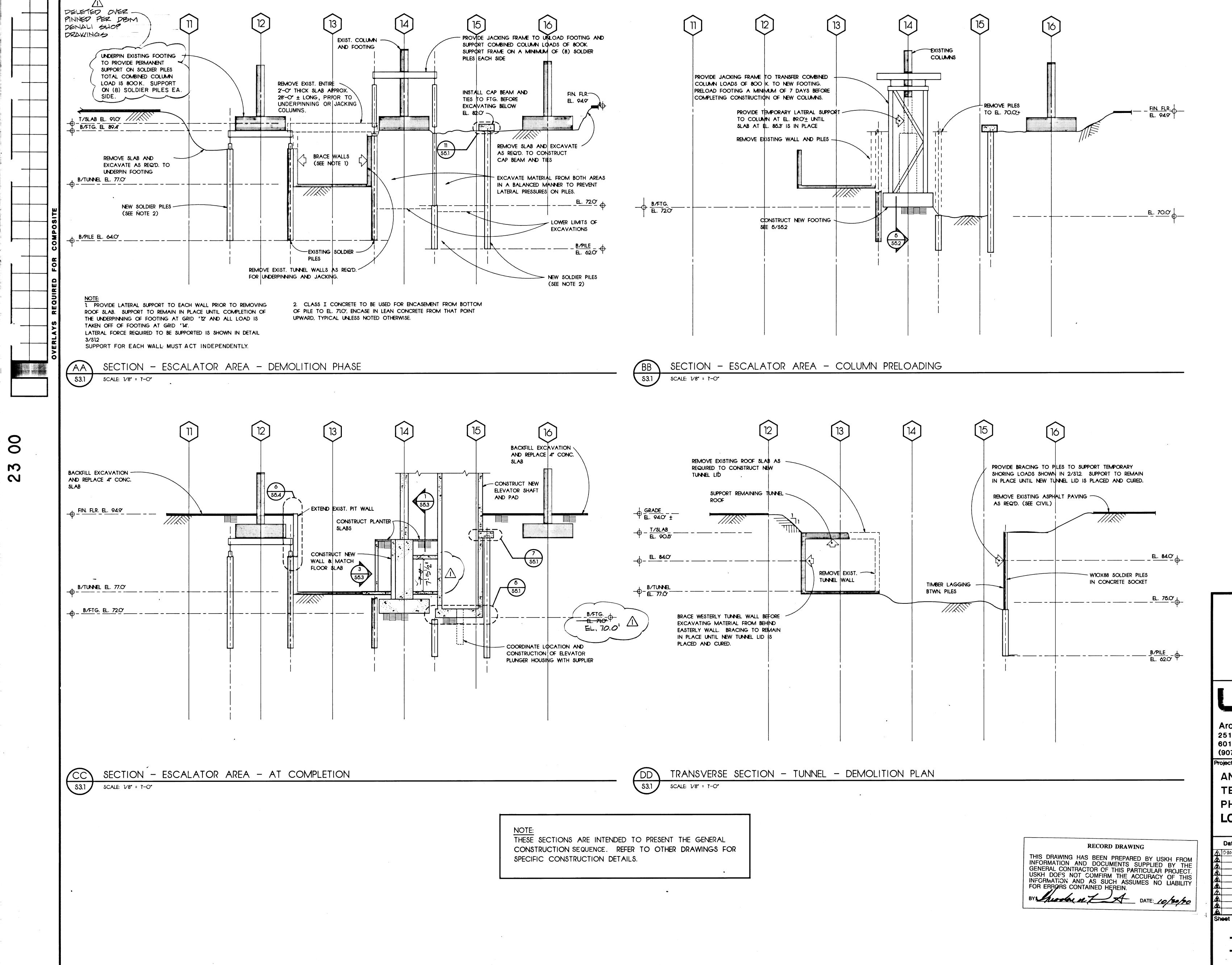
2







© 1984 by USKH, Inc. All rights reserved. This drawing may not be reproduced, in whole or in part, in any form without the prior written permission of USKH, Inc.



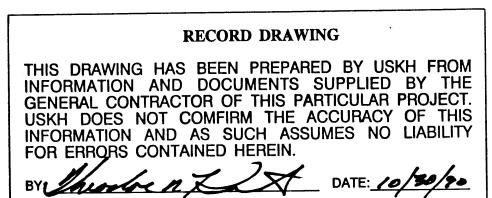
Architecture Engineering Land Surveying Planning 2515 'A' Street Anchorage, Alaska 99503 601 Hughes Avenue, Suite 202 Fairbanks, Alaska 99701 (907) 276-4245 (907) 452-2128 Project 56763 C ANCHORAGE INTERNATIONAL AIRPORT TERMINAL EXPANSION PHASE III LOBBY IMPROVEMENTS 1 0.30.90 RECORD DRAWING ·Drawn Checked **Sheet Contents TRANSVERSE TUNNEL SECTIONS S3.1** 

AIA 23 00

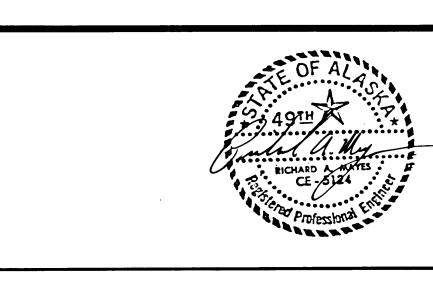
© 1984 by USKH, Inc. All rights reserved. This drawing may not be reproduced, in whole or in part, in any form without the prior written permission of USKH, Inc.

23

SPECIFIC CONSTRUCTION DETAILS.



B/TUNNEL EL. 77.0'



Architecture Engineering Land Surveying Planning 2515 'A' Street Anchorage, Alaska 99503 601 Hughes Avenue, Suite 202 Fairbanks, Alaska 99701 (907) 276-4245 (907) 452-2128

Project 56763 C ANCHORAGE INTERNATIONAL AIRPORT

TERMINAL EXPANSION PHASE III

LOBBY IMPROVEMENTS

| Date   | Revision       | Ву  | Project<br>Manager | RAI | <b>/</b> |
|--|----------------|-----|--------------------|-----|----------|
| 10.30.90   | record drawing | GPB | Drawn              | GPB |          |
| \$\frac{1}{3}\$. \$\frac{1}{3}\$. \$\frac{1}{3}\$. |                |     | Drawn              |     |          |
| <b>6</b>   |                |     | Checked            | BEH |          |
| <b>A A</b>   |                |     | Date               | 5/6 | / Q Q    |
| A  |                |     | USKH#              |     |          |
| Sheet Co   | ntents         |     | Sheet No.          | 292 | <u> </u> |
|  |                |     |                    |     |          |

LONGITUDINAL TUNNEL SECTIONS

**S3.2** AIA 23 01

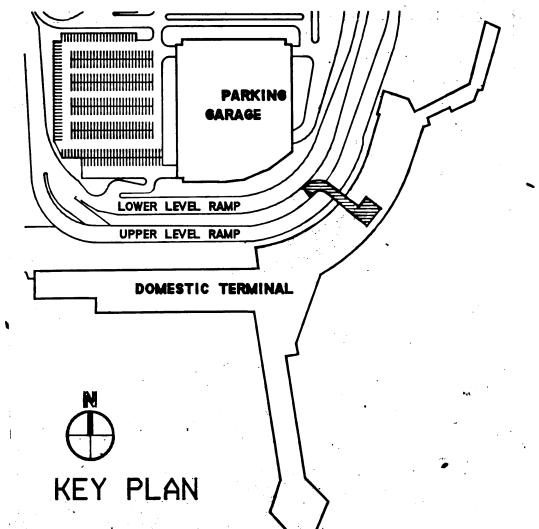
© 1984 by USKH, Inc. All rights reserved. This drawing may not be reproduced, in whole or in part, in any form without the prior written permission of USKH, Inc.

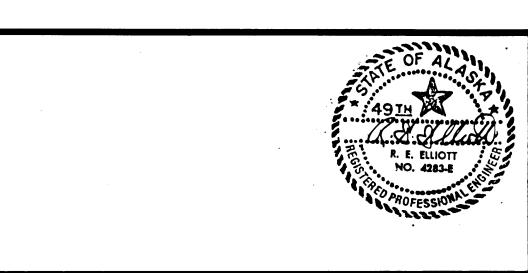
**N** 

23

#### SHEET NOTES M2.5

- ROUTE UNDERFLOOR DRAIN LINE FROM ELEVATOR FLOOR DRAIN TO ES-CALATOR PIT SUMP. SLOPE AT 1/4" PER FT MINIMUM.
- COORDINATE WITH ARCHITECTURAL FOR INSTALLATION OF PD-1.
  ROUTE DRAIN PIPING ALONG TOP OF STRUCTURAL FOUNDATION AND INTO UNDER ESCALATOR AREA.
- ROUTE DRAIN PIPE UNDERFLOOR TO ESCALATOR SUMP. SLOPE AT 1/4" PER FT MINIMUM.
- ROUTE PUMPED DRAIN (PD) PIPING UNDERFLOOR TO RISER THROUGH WALL SPACE.
- ROUTE PUMPED DRAIN RISER THROUGH WALL SPACE. COORDINATE W/DETAIL 9/A2.1. COORDINATE WITH STRUCTURAL FOR SLEEVE
- ROUTE PUMPED DRAIN THROUGH CEILING SPACE TO POINT OF NEW CONNECTION AT EXISTING RAIN LEADER.
- COORDINATE WITH DETAIL 7/M3.1 FOR INSTALLATION.
- SLEEVE DRAIN LINE W/NEXT LARGER PIPE SIZE WHERE PIPING PASSES UNDER STRUCTURAL FOUNDATION TO 1' ON EACH SIDE OF
- 9 HANG FROM ROOF STRUCTURE WITH VIBRATION ISOLATORS. CONNECT TO SEPARATION WALL VIA FLEX CONNECTION. COORDINATE WITH DETAIL 2/M2.5.
- ALL BRANCHES SHALL BE 45° TAKE-OFFS. INSURE FLEX DUCT CONNECTORS MAKE A MINIMUM OF ONE 45° TURN BETWEEN MAIN AND DIF-FUSER FOR SOUND ATTENUATION.





Architecture Engineering Land Surveying Planning 2515 'A' Street Anchorage, Alaska 99503 601 Hughes Avenue, Suite 202 Fairbanks, Alaska 99701

(907) 276-4245 (907) 452-2128 Project 56763C

ANCHORAGE INTERNATIONAL AIRPORT TERMINAL EXPANSION PHASE III

## LOBBY IMPROVEMENTS

|        | Revision | Ву             | Project<br><b>Manager</b>           | REE  |
|--------|----------|----------------|-------------------------------------|--|
| RECORD | DRAWING  | 2WI            | Drawn                               | ССН  |
|        |          |                | Drawn                               |  |
|        |          |                | Checked                             | ССН  |
|        |          |                | Date                                | 5/6/88   |
|        |          |                | USKH <b>≠</b>                       | 2923   |
| *      | <u>-</u> |                |                                     | 2.5  |
|        | tents    | RECORD DRAWING | RECORD DRAWING JMI Rents IEL LEVEL, | RECORD DRAWING  RECORD DRAWING  Drawn  Checked  Date  USKH#  Sheet No. |

AIA 23 20

© 1984 by USKH, inc. All rights reserved. This drawing may not be reproduced, in whole or in part, in any form without the prior written permission of USKH, inc.

